

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

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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:

Multiply	By	To obtain
inch	25.4	millimeter
foot	.3048	meter
mile	1.609	kilometer
square mile (mi ²)	2.590	square kilometer
cubic foot per second (ft ³ /s)	.02832	cubic meter per second
foot per mile (ft/mi)	.189	meter per kilometer
acre-foot	1233	cubic meter
	.001233	cubic hectometer

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INTRODUCTION

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

The 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 1982 water year (Oct. 1, 1981 to Sept. 30, 1982).

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-82-3, 1982.

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. A list of some of these geologic reports is given in the section "Selected references".

The major streams in the study area are Onion Creek, Barton Creek, Walnut Creek, Bull Creek, Boggy Creek, Shoal Creek, Williamson Creek, Slaughter Creek, Bear Creek, and Waller Creek. All streams in the area are within the Colorado River basin. 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 ACTIVITIES

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 6-16.

Precipitation Data

Precipitation data are based on 26 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 given in table 1 and shown on figure 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 19.79 inches at gage 2-ON in the Onion Creek basin to 34.56 inches at gage 1-SLA in the Slaughter Creek basin. The mean water-year total of all the rain gages is 28.94 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 15 and 16 in the section "Compilation of data".

Storm Data

Only one large runoff-producing storm occurred during the year. This storm occurred on May 13, with rainfall totals ranging from 2.81 to 6.26 inches. This storm was analyzed for all stations except for those where rainfall distribution was uneven or where the quality of recorded data was poor. The areal distribution of rainfall totals for the May 13 storm for the entire Austin area is shown in figure 17.

A report entitled "Techniques for estimating the magnitude and frequency of floods in the Austin, Texas, metropolitan area" is currently being completed. This report presents an analysis of all storm data gathered in the Austin area along with equations for estimating the magnitude and frequency of floods in this area.

Runoff Data

Runoff data are based on discharge measurements and stage records at 14 continuous-record streamflow stations and 15 flood-hydrograph partial-record streamflow gaging stations. Streamflow data for continuous-record gaging

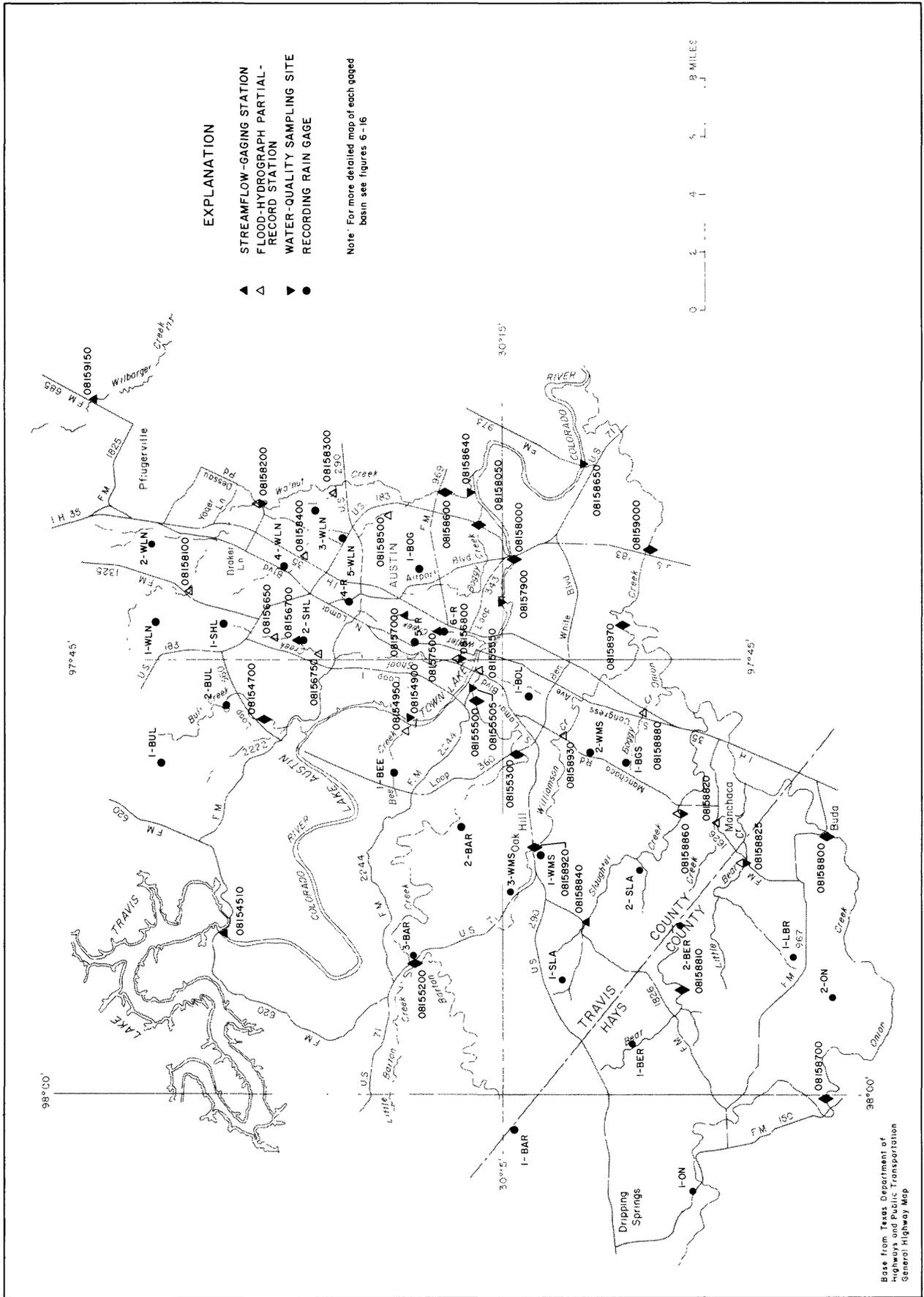


Figure 1.- Locations of surface-water hydrologic-instrument installations and surface-water-quality sampling sites in the Austin urban study area

Table 1.--Location 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. 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). 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. 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. Elevation, 1,058 ft (approximate).
2-BAR	Lat 30°16'24", long 97°50'55", at Lost Creek Country Club, 150 ft northwest of maintenance building, 1.7 miles southwest of intersection of Lost Creek Blvd. and Loop 360. 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. 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. Elevation, 763 ft (approximate).

Table 1.--Location 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. Elevation, 671 ft (approximate).
1-BOG	Lat 30°17'31", long 97°41'54", 50 ft behind National Weather Service building at 3724 Manor Road. 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. 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. 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. Elevation, 595 ft (approximate).
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. 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. 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).

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

Rain gage	Location
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. 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).
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. 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. 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. 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 .24
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
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
08158300	Ferguson Branch at Springdale Road	3-WLN	1.00
08158400	Little Walnut Creek at Interstate Highway 35	1-SHL 4-WLN	.34 .66

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/
08158500	Little Walnut Creek at Manor Road	1-SHL	0.15
		4-WLN	.43
		5-WLN	.42
08158600	Walnut Creek at Webberville Road	1-WLN	.25
		2-WLN	.21
		3-WLN	.28
		4-WLN	.15
		5-WLN	.11
08158700	Onion Creek near Driftwood	1-ON	1.00
08158800	Onion Creek at Buda	1-ON	.73
		2-ON	.27
08158810	Bear Creek below Farm Road 1826	1-BER	1.00
08158820	Bear Creek at Farm Road 1626	1-BER	.66
		2-BER	.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	.48
		2-SLA	.52
08158880	Boggy Creek (South) at Circle S Road	1-BGS	1.00
08158920	Williamson Creek at Oak Hill	1-WMS	.16
		3-WMS	.84
08158930	Williamson Creek at Manchaca Road	1-WMS	.46
		2-WMS	.25
		3-WMS	.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; BOG-Boggy Creek; WLN-Walnut Creek; ON-Onion 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 Data" for explanation of use of weighted-mean precipitation factors

stations, and for flood-hydrograph partial-record stations for the 1982 water year are presented in downstream order in the section "Compilation of data."

Rainfall and runoff for the 1982 water year for the continuous-record gaging stations in the Austin urban study area are summarized in table 13. Runoff varied from 1.48 inches for the Onion Creek at Buda gage to 7.55 inches for the Shoal Creek at Northwest Park gage, which was 6 percent and 25 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."

Surface-Water-Quality Data

Water-quality data were collected at 20 streamflow locations during the 1982 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. Five of these water-quality data-collection sites are equipped with automated samplers that collect discrete samples during storms. These five automated samplers are located at the gaging stations; Barton Creek at Loop 360, Shoal Creek at 12th Street, Boggy Creek at Highway 183, Bull Creek at Loop 360, and Williamson Creek at Oak Hill. The peak discharges associated with the water-quality samples collected during storms at all the gaging stations are shown in table 14.

Analyses for these sites include nutrients (ammonia, nitrogen, organic nitrogen, nitrite nitrogen, and phosphorus), physical organics and inorganics (specific conductance, pH, temperature, color, turbidity, dissolved oxygen, suspended and dissolved solids, biochemical oxygen demand, and total organic carbon), indicator bacteria (total coliform, fecal coliform, and fecal streptococci), and inorganic-chemical constituents (calcium, magnesium, sodium, potassium, alkalinity, sulfate, chloride, fluoride, and silica). Some years, analyses are also done for 12 selected trace elements (arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, mercury, selenium, silver, and zinc), 26 insecticides and herbicides, and radiochemical analyses.

Beginning in 1984, a report will be prepared that will include water-quality data for the five sites equipped with automatic samplers. The water-quality characteristics for those five watersheds will be determined and interpretations relating water-quality characteristics with land use will be made.

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.

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. The locations of all these ground-water sites in Travis and Hays Counties are shown in figures 4 and 5 respectively. The descriptions and characteristics of the

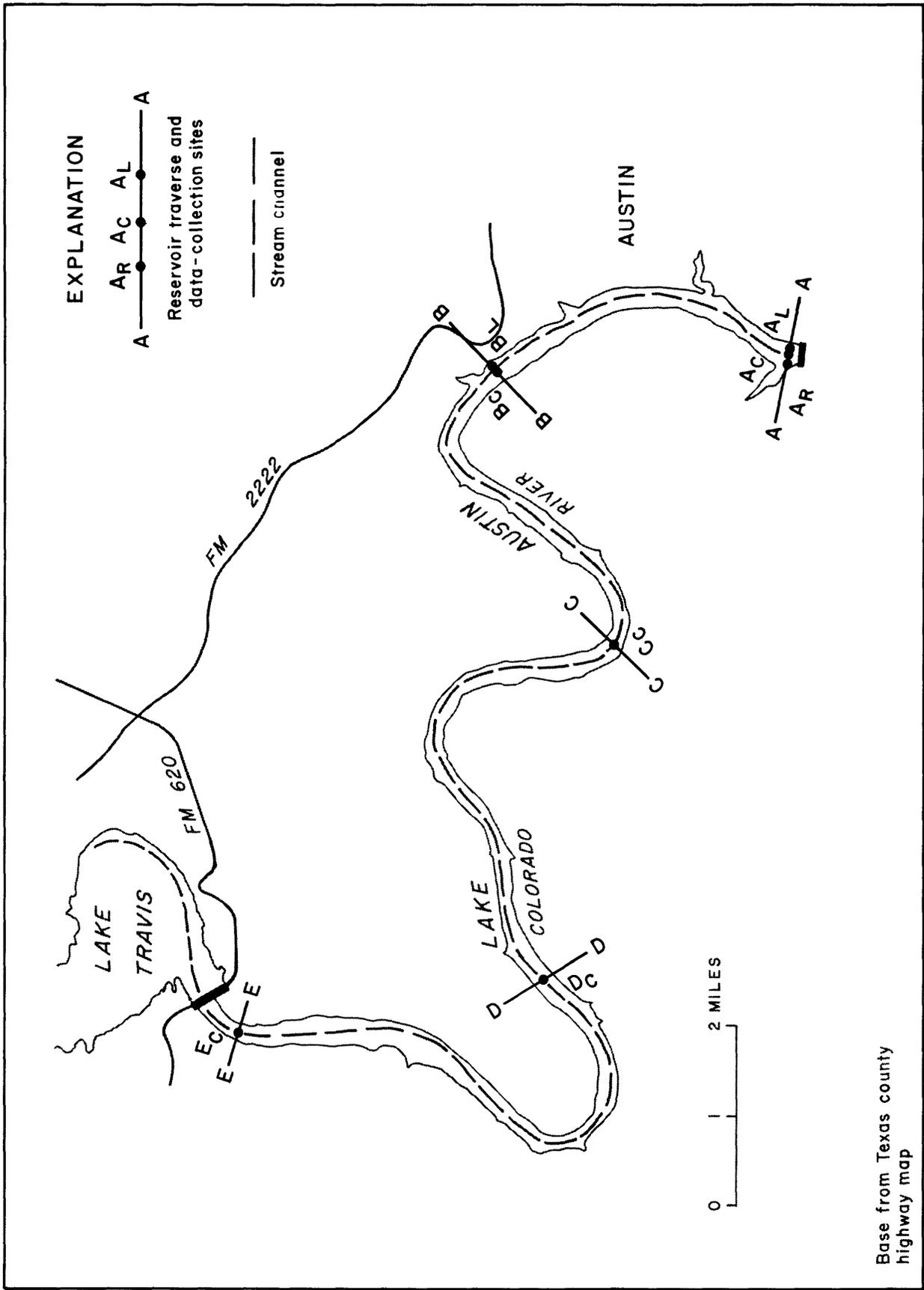


Figure 2.- Locations of the water-quality data-collection sites on Lake Austin

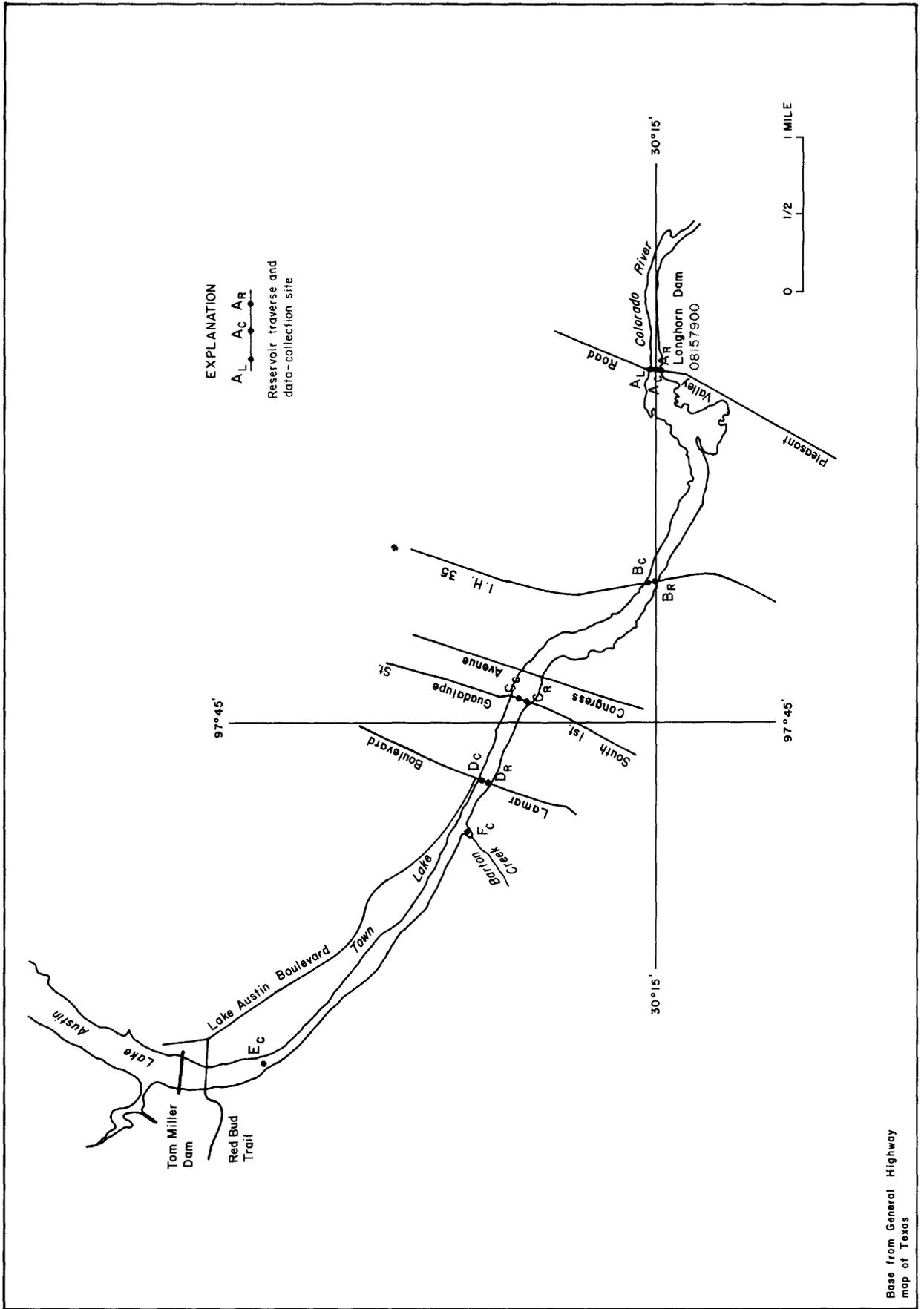
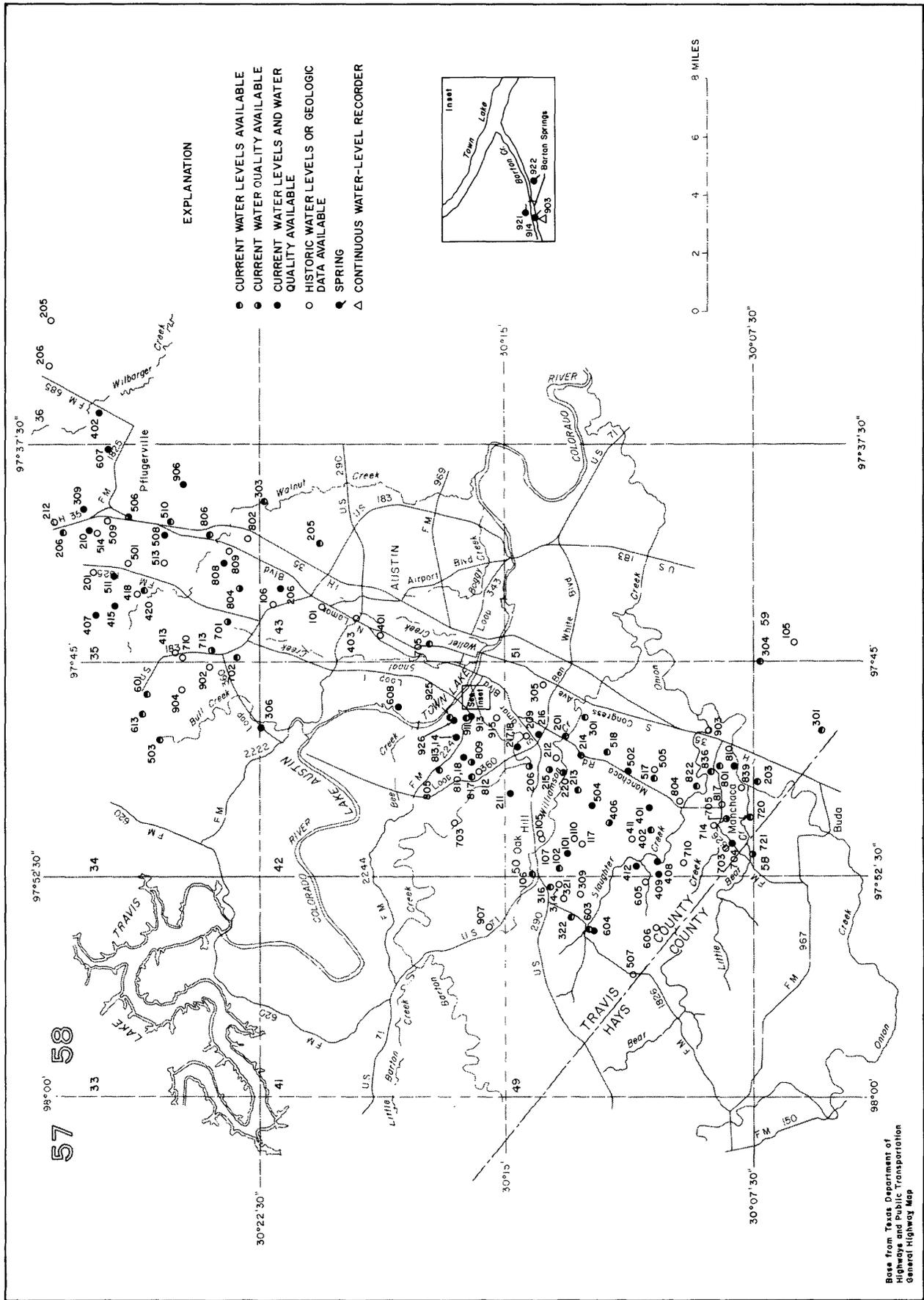
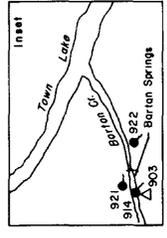


Figure 3.- Locations of the water-quality data-collection sites on Town Lake



EXPLANATION

- CURRENT WATER LEVELS AVAILABLE
- CURRENT WATER QUALITY AVAILABLE
- CURRENT WATER LEVELS AND WATER QUALITY AVAILABLE
- HISTORIC WATER LEVELS OR GEOLOGIC DATA AVAILABLE
- ▲ SPRING
- △ CONTINUOUS WATER-LEVEL RECORDER



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

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

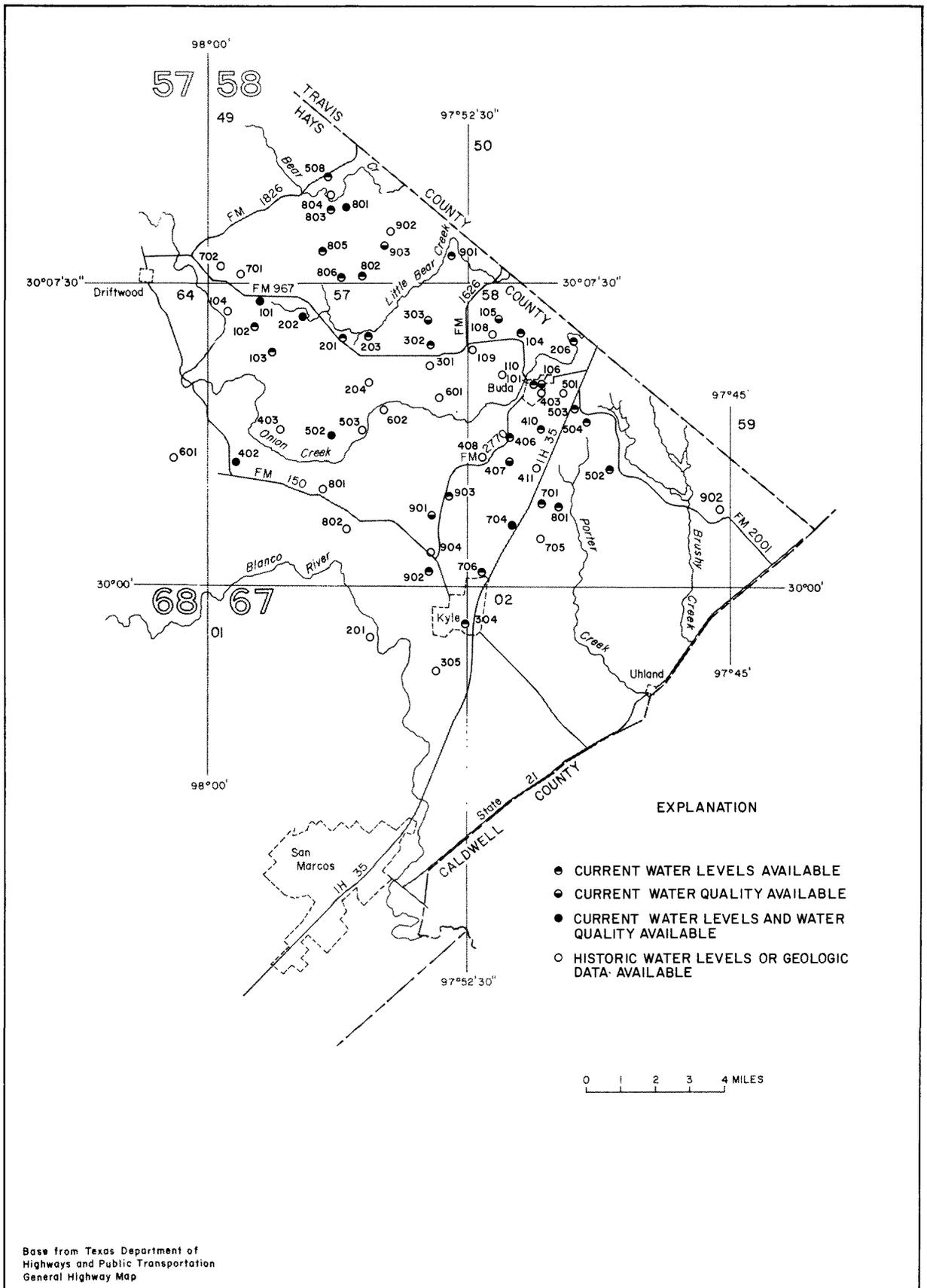


Figure 5.-Ground-water data-collection sites in Hays County

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 17. Water-quality data collected from 34 wells in Travis County and 12 wells in Hays County are presented in table 18. Analyses for the ground-water samples include all the constituents analyzed for the surface-water samples except color, turbidity, dissolved oxygen, biochemical oxygen demand, suspended solids and total organic carbon. Monthly water-level measurements made at 31 observation wells are presented in table 19. Other ground-water data for Travis and Hays Counties are in reports by Brune (unpublished) and DeCook (1960).

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 that part of the Edwards aquifer between the Colorado River and the city of Kyle. Cold and Deep Eddy Springs discharge a small portion of the aquifer, and Barton Springs discharges the remainder of the aquifer. 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 1982 calendar year, the total ground-water pumpage from the part of the Edwards aquifer in hydrologic circulation with Barton Springs was about 3,800 acre-feet. About 2,900 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 37,600 acre-feet, of which about 34,700 acre-feet was from Barton Springs and the remaining 2,900 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, studies were conducted on these creeks to determine the quantity and location of 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 identified. The locations, descriptions, and data for the flow-loss study are given in the report by Slade and others (1982).

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. Baker and others (oral communication) are preparing a progress report that describes the geologic and hydrologic framework of the Edwards aquifer in Hays, Travis, Williamson, and Bell Counties between the cities of Kyle and Belton.

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COMPI LATION OF DATA

COLORADO RIVER BASIN

The surface-water hydrologic data for the Colorado River for the 1982 water year are given in the following pages:

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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.--38,755 mi² (100,375 km²), approximately, of which 11,403 mi² (29,534 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.--8 years, 1,704 ft³/s (48.26 m³/s), 1,235,000 acre-ft/yr (1.52 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, 3,630 ft³/s (103 m³/s) Oct. 26; no flow at times.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	420	3200	3060	299	2680	457	1750	1520	3030	3440	2460	2510
2	781	2960	3090	244	2730	586	1860	1490	2950	2980	2540	2370
3	527	3030	1330	193	1850	328	1510	1770	3030	3450	2400	2680
4	498	3030	92	.00	.00	328	1540	1620	3020	3020	2380	2270
5	.00	3030	.00	.00	1760	562	2400	1780	3050	3540	2530	2540
6	.00	3080	.00	.00	1390	1010	857	1600	3020	3230	2240	2550
7	418	2320	.00	.00	863	861	874	980	3000	3130	3570	2520
8	25	2370	.00	.00	1200	1840	803	1080	2500	3220	1910	2360
9	.00	2280	.00	.00	2250	.00	859	1190	2870	2930	2580	2360
10	.00	2290	225	.00	1640	317	767	1410	2850	3120	2580	1710
11	.00	2320	.00	1220	1070	580	750	1050	2820	2600	3190	2160
12	.00	2320	1070	.00	1540	937	1350	817	2000	2690	3020	2200
13	101	2320	1110	.00	1010	617	1450	1160	2420	2500	2890	1680
14	2830	1110	1090	.00	255	656	1630	1330	2690	2880	1720	2280
15	3220	233	982	.00	235	725	1480	1490	2670	3420	2600	1670
16	3030	1320	490	.00	1290	663	1620	1910	2640	3620	2280	2080
17	3090	1010	.00	.00	1240	616	1350	1610	2640	2850	2320	1830
18	3260	1350	485	.00	1210	588	1630	2110	2630	2930	2460	1690
19	2970	1900	978	.00	1180	645	1760	2210	2680	2530	2620	1610
20	3270	1230	515	.00	157	682	1400	1710	2320	2800	2600	1600
21	3360	1020	515	.00	.00	986	1680	1880	2610	2880	2660	2010
22	3030	1200	776	.00	1030	1740	1550	1530	2360	3140	2400	1900
23	3030	1850	693	.00	189	1480	1720	1350	2310	2930	2450	1920
24	3030	1780	559	.00	.00	1710	1310	1370	2420	2150	2220	1340
25	3550	1240	1020	.00	1440	1550	1420	2340	2650	1750	1910	1130
26	3630	610	672	.00	2320	2240	1580	3290	3260	2290	2080	1380
27	3200	2140	636	.00	353	1730	1400	3010	3090	2150	1880	1380
28	3030	663	756	.00	96	1760	1430	3020	3190	2340	1890	1040
29	3420	773	667	.00	---	1570	1620	3010	3580	2400	3190	835
30	3030	1930	941	.00	---	1580	1580	2930	3240	2840	2160	930
31	3160	---	.00	.00	---	1570	---	1800	---	2950	2780	---
TOTAL	59910.00	55909	21752.00	1956.00	30978.00	30914.00	42930	55367	83540	88700	76510	56535
MEAN	1933	1864	702	63.1	1106	997	1431	1786	2785	2861	2468	1885
MAX	3630	3200	3090	1220	2730	2240	2400	3290	3580	3620	3570	2680
MIN	.00	233	.00	.00	.00	.00	750	817	2000	1750	1720	835
AC-FT	118800	110900	43150	3880	61440	61320	85150	109800	165700	175900	151800	112100
CAL YR 1981	TOTAL	772722.00	MEAN	2117	MAX	22700	MIN	.00	AC-FT	1533000		
WTR YR 1982	TOTAL	605001.00	MEAN	1658	MAX	3630	MIN	.00	AC-FT	1200000		

COLORADO RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: June 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L CaCO3)
NOV 16...	1245	1320	425	7.6	20.0	5.6	62	.8	170	20
DEC 14...	1150	1090	448	8.1	18.5	6.7	72	.4	170	30
MAR 02...	0940	586	447	8.2	11.5	10.2	95	.4	190	41
APR 26...	1340	1580	446	8.0	13.0	8.9	86	.0	180	39
JUL 12...	1445	2690	456	7.6	18.0	5.2	56	1.3	190	37
AUG 16...	1110	2280	484	7.7	21.0	4.4	50	.0	180	33

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
NOV 16...	40	17	20	.7	3.7	150	28	33	.3
DEC 14...	40	17	21	.8	3.7	140	23	40	.3
MAR 02...	42	21	21	.7	3.6	150	28	45	.2
APR 26...	42	18	21	.7	3.5	140	26	38	.2
JUL 12...	45	18	22	.8	3.6	150	30	39	.2
AUG 16...	42	19	24	.8	3.5	150	28	46	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (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)
NOV 16...	9.6	252	.32	.020	.34	.150	.95	1.10	.020
DEC 14...	9.5	238	--	<.020	.22	<.070	--	.65	.020
MAR 02...	9.3	260	--	<.020	.20	<.060	--	.33	.050
APR 26...	9.4	242	--	<.020	.28	<.060	--	.46	.060
JUL 12...	9.4	257	--	<.020	.25	<.060	--	.80	<.010
AUG 16...	8.4	261	--	<.020	.17	.120	.68	.80	.020

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) upstr am from Tom Miller Dam on the Colorado River at Austin.

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

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

301739097471601 LAKE AUSTIN SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
FEB							
16...	1010	1.00	443	8.4	11.0	10.9	99
16...	1012	10.0	443	8.4	10.5	10.8	97
16...	1014	20.0	443	8.4	10.5	10.8	97
16...	1016	30.0	443	8.4	10.5	10.8	97
16...	1018	40.0	443	8.4	10.5	10.5	95
16...	1020	52.0	443	8.4	10.5	10.1	91
AUG							
19...	0845	1.00	482	7.8	25.5	6.4	80
19...	0847	10.0	480	7.6	22.5	4.3	51
19...	0849	20.0	480	7.6	22.5	3.9	46
19...	0851	30.0	480	7.5	22.0	3.7	43
19...	0853	40.0	480	7.5	22.0	3.0	35
19...	0855	48.0	480	7.5	21.5	2.1	24

301739097471201 LAKE AUSTIN SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	COLOR (PLAT-INUM-COBALT) (UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)
FEB												
16...	0945	1.00	443	8.4	11.0	1.10	--	3.3	10.7	97	.9	K9
16...	0947	10.0	443	8.4	11.0	--	--	--	10.7	97	--	--
16...	0949	20.0	443	8.4	11.0	--	--	--	10.7	97	--	--
16...	0951	33.0	443	8.4	10.5	--	--	3.6	10.5	95	.9	--
AUG												
19...	0905	1.00	481	7.8	25.5	1.30	<1	3.1	6.4	80	.0	K6
19...	0907	10.0	480	7.7	23.5	--	--	--	5.5	65	--	--
19...	0909	20.0	480	7.6	22.5	--	--	--	3.9	46	--	--
19...	0911	30.0	480	7.6	22.0	--	--	--	3.5	41	--	--
19...	0913	38.0	480	7.6	22.0	--	10	60	3.2	37	.4	--

DATE	STREP-TOCOC CI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB												
16...	31	180	34	44	18	22	.8	3.4	150	30	38	.2
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	180	34	44	18	22	.8	3.4	150	29	38	.2
AUG												
19...	K6	180	32	43	18	23	.8	3.1	150	30	42	.2
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	180	33	42	19	24	.8	3.1	150	29	43	.2

COLORADO RIVER BASIN

LAKE AUSTIN AT AUSTIN, TX--Continued

301739097471201 LAKE AUSTIN SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SILICA, DIS-SOLVED AS (MG/L SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLATILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	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)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
FEB												
16...	9.3	255	5	5	--	<.020	.23	<.060	--	.73	.96	.010
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	<.020	.27	<.060	--	.99	1.3	.010
16...	9.3	254	7	5	--	<.020	.23	<.060	--	.76	.99	.010
AUG												
19...	8.5	258	11	6	--	<.020	.10	.060	.84	.90	1.0	.030
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	<.020	.12	.120	.98	1.10	1.2	.020
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	8.9	259	105	20	.10	.020	.12	.110	1.6	1.70	1.8	.080

DATE	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)	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)
FEB												
16...	2	65	<1	<10	7	<10	3	2	<.1	<1	<1	<3
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	30	--	<10	--	--	--	--
16...	2	68	<1	<10	7	<10	5	6	<.1	<1	<1	<3
AUG												
19...	1	66	<1	<10	1	4	2	1	<.1	<1	<1	<3
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	30	--	<10	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	1	66	<1	<10	1	7	<1	18	<.1	<1	<1	<3

DATE	TIME	SAMPLING DEPTH (FEET)	AMETRYNE TOTAL	ATRAZONE TOTAL (UG/L)	ATRAZONE TOTAL (UG/L)	CYANAZINE TOTAL (UG/L)	CYPRAZINE TOTAL (UG/L)	METHOXYL TOTAL (UG/L)	
FEB									
16...	0945	1.00	.00	.00	.00	.00	.00	.0	
16...	0951	33.0	.00	.00	.00	.00	.00	.0	
AUG									
19...	0905	1.00	<.10	<.10	<.10	<.10	<.10	<2.0	
19...	0913	38.0	<.10	<.10	<.10	<.10	<.10	<2.0	
DATE	TIME	PROMETONE TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMEZONE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)
FEB									
16...		.0	.0	.00	.0	.00	.00	.00	.0
16...		.0	.0	.00	.0	.00	.00	.00	.0
AUG									
19...		<.1	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
19...		<.1	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

301739097470901 LAKE AUSTIN SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (PERCENT SATURATION)
FEB							
16...	1032	1.00	443	8.4	11.0	10.9	99
16...	1034	10.0	443	8.4	11.0	10.8	98
16...	1036	14.0	443	8.4	11.0	10.7	97
AUG							
19...	0900	1.00	481	7.8	25.5	6.4	80
19...	0902	10.0	480	7.6	22.5	3.9	46
19...	0903	15.0	480	7.6	22.5	3.6	42

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

302043097472401 LAKE AUSTIN SITE BC
WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TRANSPAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED SATUR-ATION (%)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)
FEB									
16...	1054	1.00	443	8.4	11.5	1.90	10.4	95	<.020
16...	1056	10.0	443	8.4	11.5	--	10.4	95	--
16...	1058	20.0	443	8.4	11.5	--	10.1	93	--
16...	1100	27.0	443	8.3	12.0	--	10.0	93	<.020
AUG									
19...	0940	1.00	480	7.7	23.5	1.50	5.5	65	<.020
19...	0942	10.0	480	7.7	22.5	--	4.5	53	--
19...	0944	20.0	480	7.7	22.5	--	4.5	53	--
19...	0946	27.0	480	7.7	22.5	--	4.3	51	<.020

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
FEB								
16...	.26	<.060	--	1.00	1.3	.010	<10	10
16...	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--
16...	.21	.090	.91	1.00	1.2	.010	20	10
AUG								
19...	.10	.080	.52	.60	.70	.030	20	<10
19...	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--
19...	.10	.180	1.7	1.90	2.0	.030	10	20

302044097472301 LAKE AUSTIN SITE BL
WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED SATUR-ATION (%)
FEB							
16...	1045	1.00	443	8.5	12.0	10.7	99
16...	1047	7.00	443	8.4	12.0	10.7	99

301926097502201 LAKE AUSTIN SITE CC
WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TRANSPAR-ENCY (SECCHI DISK) (M)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED SATUR-ATION (%)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)
FEB												
16...	1124	1.00	440	8.3	12.0	2.60	--	3.7	10.0	93	.3	K3
16...	1126	10.0	440	8.3	11.5	--	--	--	10.0	92	--	--
16...	1128	20.0	440	8.3	11.5	--	--	--	10.0	92	--	--
16...	1130	24.0	440	8.3	12.0	--	--	2.5	9.9	92	.4	--
AUG												
19...	1000	1.00	482	7.6	22.0	2.00	5	2.0	4.2	49	.1	K5
19...	1002	10.0	482	7.6	22.0	--	--	--	4.1	48	--	--
19...	1004	20.0	482	7.6	22.0	--	--	--	4.0	47	--	--
19...	1006	28.0	482	7.6	22.0	--	<1	2.4	4.0	47	.2	--

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

301926097502201 LAKE AUSTIN SITE CC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
FEB												
16...	K18	180	34	44	18	22	.8	3.8	150	28	39	.3
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	180	34	44	18	22	.8	3.8	150	28	42	.3
AUG												
19...	K39	180	29	42	18	23	.8	3.0	150	31	43	.2
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	180	29	42	18	23	.8	3.1	150	30	43	.2

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC DIS- SOLVED (UG/L AS AS)
FEB												
16...	9.5	255	0	0	<.020	.21	<.070	--	.73	.94	.010	1
16...	--	--	--	--	<.020	.26	.060	.56	.62	.88	.010	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	9.5	258	6	1	<.020	.23	.060	.65	.71	.94	.010	2
AUG												
19...	8.3	259	9	1	<.020	.10	.070	.93	1.00	1.1	.020	1
19...	--	--	--	--	<.020	.11	.100	1.1	1.20	1.3	.020	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	8.3	258	8	8	<.020	.12	.130	.87	1.00	1.1	.020	1

DATE	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)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB											
16...	66	<1	<10	3	<10	1	3	<.1	<1	<1	<3
16...	--	--	--	--	10	--	10	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	66	<1	<10	3	<10	5	3	<.1	<1	<1	<3
AUG											
19...	65	<1	<10	1	<3	<1	7	<.1	<1	<1	<3
19...	--	--	--	--	10	--	10	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	64	<1	<10	2	<3	<1	7	<.1	<1	<1	<3

DATE	TIME	SAM- PLING DEPTH (FEET)	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPKA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)
FEB								
16...	1124	1.00	.00	.00	.00	.00	.00	.0
16...	1130	24.0	.00	.00	.00	.00	.00	.0
AUG								
19...	1000	1.00	<.10	<.10	<.10	<.10	<.10	<2.0
19...	1006	28.0	<.10	<.10	<.10	<.10	<.10	<2.0

DATE	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
FEB								
16...	.0	.0	.00	.0	.00	.00	.00	.0
16...	.0	.0	.00	.0	.00	.00	.00	.0
AUG								
19...	<.1	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
19...	<.1	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

COLORADO RIVER BASIN

LAKE AUSTIN AT AUSTIN, TX--Continued

302021097540001 LAKE AUSTIN SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, SATUR-ATION	NITRO-GEN, NITRITE (MG/L AS N)
FEB									
16...	1210	1.00	437	8.4	12.5	2.30	10.2	96	<.020
16...	1212	10.0	437	8.4	12.0	--	10.1	94	--
16...	1214	17.0	437	8.3	12.5	--	10.0	94	<.020
AUG									
19...	1030	1.00	479	7.6	21.0	2.80	2.7	31	<.020
19...	1032	10.0	479	7.6	21.0	--	2.5	28	--
19...	1034	14.0	479	7.6	21.0	--	2.5	28	<.020

DATE	NITRO-GEN, NO2+NO3 (MG/L AS N)	NITRO-GEN, AMMONIA (MG/L AS N)	NITRO-GEN, ORGANIC (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N)	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)
FEB								
16...	.25	<.060	--	.78	1.0	.010	10	<10
16...	--	--	--	--	--	--	--	--
16...	.25	.070	.80	.87	1.1	.010	20	10
AUG								
19...	.12	.130	.67	.80	.92	.020	20	20
19...	--	--	--	--	--	--	--	--
19...	.12	.120	.78	.90	1.0	.020	60	20

302314097544901 LAKE AUSTIN SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)
FEB											
16...	1237	1.00	435	8.6	12.5	1.40	--	5.0	11.3	107	.4 K3
16...	1239	5.00	435	8.5	13.0	--	--	3.1	11.3	108	.4 --
AUG											
19...	1100	1.00	483	7.6	20.5	1.80	<1	1.0	3.0	34	.2 K4
19...	1102	6.00	483	7.6	20.5	--	<1	1.7	2.9	33	.2 --

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CAC03)	HARD-NESS, NONCAR-BONATE (MG/L AS CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD AS CAC03)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB												
16...	K1	180	32	43	18	22	.8	3.8	150	27	39	.3
16...	--	180	32	43	18	22	.8	3.7	150	27	39	.2
AUG												
19...	K8	180	29	42	18	23	.8	3.1	150	30	43	.2
19...	--	180	32	43	18	24	.8	3.2	150	30	43	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CON-STI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRITE (MG/L AS N)	NITRO-GEN, NO2+NO3 (MG/L AS N)	NITRO-GEN, AMMONIA (MG/L AS N)	NITRO-GEN, ORGANIC (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	ARSENIC DIS-SOLVED (UG/L AS AS)
FEB												
16...	9.5	253	0	0	<.020	.21	<.060	--	.57	.78	<.010	1
16...	9.4	253	14	7	<.020	.22	<.060	--	.64	.86	<.010	2
AUG												
19...	8.4	258	11	6	<.020	.14	.110	.89	1.00	1.1	.030	1
19...	8.5	260	7	8	<.020	<.10	.090	.81	.90	--	.030	1

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

302314097544901 LAKE AUSTIN SITE EC--Continued
WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	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)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB											
16...	66	<1	<10	2	<10	1	2	<.1	<1	<1	<3
16...	64	<1	<10	2	<10	<1	1	<.1	<1	<1	<3
AUG											
19...	65	<1	<10	1	<3	<1	23	<.1	<1	<1	<3
19...	66	<1	<10	1	<3	1	22	<.1	1	<1	<3

DATE	TIME	SAM- PLING DEPTH (FEET)	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)
FEB								
16...	1237		1.00	.00	.00	.00	.00	.0
16...	1239		5.00	.00	.00	.00	.00	.0
AUG								
19...	1100		1.00	<.10	<.10	<.10	<.10	<2.0
19...	1102		6.00	<.10	<.10	<.10	<.10	<2.0

DATE	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
FEB								
16...	.0	.0	.00	.0	.00	.00	.00	.0
16...	.0	.0	.00	.0	.00	.00	.00	.0
AUG								
19...	<.1	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
19...	<.1	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

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 SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED SATURATION (%)
FEB							
17...	0946	1.00	466	8.2	12.5	10.4	100
17...	0948	14.0	466	8.2	11.5	10.2	95
AUG							
20...	0945	1.00	480	7.7	27.0	5.4	68
20...	0947	10.0	480	7.6	25.0	5.2	63
20...	0949	20.0	480	7.6	24.5	4.9	59
20...	0951	24.0	480	7.6	24.5	4.2	51

301500097424801 TOWN LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TRANSPARANCY (SECCHI DISK) (M)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, (PERCENT SATURATION) (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
FEB											
17...	0921	1.00	466	8.2	13.0	2.60	5	1.3	10.3	100	88
17...	0923	10.0	466	8.2	12.0	--	--	--	10.2	97	--
17...	0925	20.0	466	8.3	11.0	--	--	--	9.9	92	--
17...	0927	25.0	466	8.3	10.5	--	5	1.3	9.7	89	6
AUG											
20...	0920	1.00	481	7.7	26.5	1.70	5	3.0	5.3	66	160
20...	0922	10.0	480	7.7	25.5	--	--	--	5.3	65	--
20...	0924	20.0	480	7.6	25.0	--	--	--	5.0	61	--
20...	0926	28.0	478	7.6	25.0	--	15	13	5.0	61	3

DATE	TIME	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)	ALKALINITY, FIELD AS CaCO3	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)
FEB													
17...	K6	190	32	47	18	22	.8	3.3	160	32	38	.2	
17...	--	--	--	--	--	--	--	--	--	--	--	--	
17...	--	--	--	--	--	--	--	--	--	--	--	--	
17...	--	190	29	46	18	22	.8	3.3	160	29	38	.3	
AUG													
20...	42	190	37	45	18	24	.8	3.3	150	30	43	.2	
20...	--	--	--	--	--	--	--	--	--	--	--	--	
20...	--	--	--	--	--	--	--	--	--	--	--	--	
20...	--	180	34	44	18	23	.8	3.4	150	29	43	.2	

DATE	TIME	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, NITRITE (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC, DIS-SOLVED (UG/L AS AS)
FEB													
17...	9.1	266	0	0	<.020	.33	<.060	--	.66	.99	.010	1	
17...	--	--	--	--	--	<.020	.34	<.060	--	.62	.010	--	
17...	--	--	--	--	--	--	--	--	--	--	--	--	
17...	9.2	262	0	0	<.020	.31	.080	.51	.59	.90	.010	1	
AUG													
20...	8.9	263	5	3	<.020	.15	<.060	--	.50	.65	.030	1	
20...	--	--	--	--	--	<.020	.14	<.060	--	.50	.020	--	
20...	--	--	--	--	--	--	--	--	--	--	--	--	
20...	8.9	260	23	12	<.020	.15	<.060	--	.50	.65	.030	1	

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

301500097424801 TOWN LAKE SITE AC--Continued
WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB											
17...	65	<1	<10	4	<10	1	4	<.1	<1	<1	<3
17...	--	--	--	--	30	--	20	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	65	<1	<10	3	<10	4	5	<.1	<1	<1	<3
AUG											
20...	68	<1	<10	1	9	<1	4	<.1	<1	<1	6
20...	--	--	--	--	80	--	20	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	66	<1	<10	<1	3	<1	18	<.1	<1	<1	<3

DATE	TIME	SAM- PLING DEPTH (FEET)	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)
FEB								
17...	0921	1.00	.00	.00	.00	.00	.00	.0
17...	0927	25.0	.00	.00	.00	.00	.00	.0
AUG								
20...	0920	1.00	<.10	<.10	<.10	<.10	<.10	<2.0
20...	0926	28.0	<.10	<.10	<.10	<.10	<.10	<2.0

DATE	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
FEB								
17...	.0	.0	.00	.0	.00	.00	.00	.0
17...	.0	.0	.00	.0	.00	.00	.00	.0
AUG								
20...	<.1	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
20...	<.1	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

301503097424701 TOWN LAKE SITE AL
WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
17...	0910	1.00	466	8.3	13.0	10.0	97
17...	0912	10.0	466	8.3	12.5	10.0	96
17...	0914	15.0	466	8.3	12.0	10.0	95
AUG							
20...	0940	1.00	480	7.7	26.0	5.6	69
20...	0942	10.0	480	7.7	25.0	5.3	65
20...	0944	14.0	480	7.6	25.0	5.2	63

301500097440801 TOWN LAKE SITE BK
WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
17...	1015	1.00	466	8.0	12.5	10.0	96
17...	1017	13.0	466	8.0	12.0	10.0	95
AUG							
20...	1008	1.00	482	7.7	25.0	5.3	65
20...	1010	10.0	482	7.7	24.5	5.2	63
20...	1012	14.0	482	7.6	25.0	5.1	62

COLORADO RIVER BASIN

TOWN LAKE AT AUSTIN, TX--Continued

301504097440901 TOWN LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
FEB							
17...	1000	1.00	466	8.0	12.0	9.9	94
17...	1002	10.0	466	8.1	12.0	9.9	94
17...	1004	20.0	466	8.1	11.5	9.9	93
17...	1006	27.0	466	8.1	11.5	9.8	92
AUG							
20...	1000	1.00	482	7.7	25.0	5.2	63
20...	1002	10.0	482	7.7	24.5	5.2	63
20...	1004	20.0	482	7.7	24.5	5.2	63
20...	1005	23.0	482	7.7	24.5	5.2	63

301544097445201 TOWN LAKE SITE CR

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
FEB							
17...	1033	1.00	460	8.1	13.0	9.9	96
17...	1035	10.0	460	8.1	12.5	10.0	96
AUG							
20...	1026	1.00	480	7.6	24.0	5.0	60
20...	1028	8.00	480	7.6	24.0	5.0	60

301546097445101 TOWN LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
FEB							
17...	1025	1.00	460	8.3	12.0	9.9	94
17...	1027	10.0	460	8.3	12.0	9.9	94
17...	1029	17.0	460	8.2	12.5	9.8	94
AUG							
20...	1020	1.00	482	7.6	24.0	5.2	62
20...	1022	10.0	480	7.6	24.0	4.9	58
20...	1024	15.0	480	7.6	24.0	4.9	58

301556097452301 TOWN LAKE SITE DR

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
FEB							
17...	1041	1.00	460	8.2	12.0	10.0	95
17...	1043	13.0	460	8.1	12.0	10.1	96
AUG							
20...	1045	1.00	482	7.6	24.0	5.0	60
20...	1047	11.0	482	7.6	24.0	4.9	58

COLORADO RIVER BASIN

TOWN LAKE AT AUSTIN, TX--Continued

301556097452301 TOWN LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)
FEB												
17...	1049	1.00	460	8.5	12.5	2.40	0	2.0	9.8	94	.4	96
17...	1051	10.0	460	8.5	12.0	--	--	--	9.9	94	--	--
17...	1053	17.0	460	8.5	12.0	--	5	2.0-	10.0	95	.5	--
AUG												
20...	1034	1.00	482	7.6	24.0	1.00	3	7.5	5.0	60	.1	80
20...	1036	10.0	481	7.6	24.0	--	--	--	4.8	57	--	--
20...	1038	20.0	481	7.6	24.0	--	3	11	4.8	57	.1	--

DATE	TIME	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CAC03)	HARD-NESS, NONCAR-BONATE (MG/L CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB													
17...	22	190	27	45	18	22	.8	3.6	160	30	40	.3	
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	190	37	45	18	22	.8	3.2	150	31	38	.2	
AUG													
20...	190	190	42	44	20	24	.8	3.3	150	32	43	.2	
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	190	38	44	19	23	.8	3.3	150	33	45	.2	

DATE	TIME	SILICA, DIS-SOLVED (MG/L SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, 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, 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 (MG/L AS FE)	MANGA-NESE, DIS-SOLVED (MG/L AS MN)
FEB													
17...	9.2	264	0	0	<.020	.30	<.060	.61	.91	.010	<10	<1	
17...	--	--	--	--	<.020	.27	<.060	.81	1.1	.010	30	10	
17...	9.2	257	6	4	<.020	.26	<.060	.66	.92	.010	12	7	
AUG													
20...	9.1	266	14	8	<.020	.14	<.060	.40	.54	.040	<3	8	
20...	--	--	--	--	<.020	.15	<.060	.50	.65	.030	140	40	
20...	9.1	267	21	13	<.020	.19	<.060	.40	.59	.040	<3	7	

301712097470701 TOWN LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)
FEB												
17...	1120	1.00	452	8.4	13.0	1.50	0	2.7	10.4	100	.9	K6
17...	1122	10.0	452	8.5	12.5	--	--	--	10.3	99	--	--
17...	1124	19.0	452	8.3	13.0	--	5	2.3	10.1	98	.8	--
AUG												
20...	1105	1.00	478	7.7	23.5	.90	5	2.8	4.9	58	.3	K30
20...	1107	10.0	478	7.7	23.5	--	--	--	4.8	56	--	--
20...	1109	20.0	479	7.7	23.5	--	5	1.2	4.8	56	--	--

DATE	TIME	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CAC03)	HARD-NESS, NONCAR-BONATE (MG/L CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB													
17...	K15	190	37	45	18	23	.8	3.8	150	28	38	.3	
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	180	34	44	18	22	.8	3.8	150	30	39	.3	
AUG													
20...	120	180	34	44	18	24	.8	3.4	150	30	43	.2	
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	180	34	44	18	23	.8	3.4	150	29	43	.2	

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

301712097470701 TOWN LAKE SITE EC--Continued
WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, 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)	ARSENIC DIS- SOLVED (UG/L AS AS)
FEB												
17...	9.2	256	16	0	<.020	.26	<.060	--	.74	1.0	.010	1
17...	--	--	--	--	<.020	.26	<.060	--	.73	.99	.020	--
17...	9.0	256	8	5	<.020	.23	.060	.80	.86	1.1	.010	1
AUG												
20...	8.7	262	17	<2	<.020	.12	<.060	--	.60	.72	.030	1
20...	--	--	--	--	<.020	.12	<.060	--	.50	.62	.030	--
20...	8.7	260	26	8	<.020	.12	<.060	--	.70	.82	.030	1

DATE	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)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB											
17...	65	<1	<10	3	<10	3	2	<.1	<1	<1	<3
17...	--	--	--	--	<10	--	10	--	--	--	--
17...	64	<1	<10	4	<10	<1	2	<.1	<1	<1	<3
AUG											
20...	66	<1	<10	<1	<3	<1	2	<.1	<1	<1	<3
20...	--	--	--	--	10	--	10	--	--	--	--
20...	65	<1	<10	<1	<3	<1	2	<.1	<1	<1	<3

DATE	TIME	SAM- PLING DEPTH (FEET)	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPR- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	
FEB									
17...	1120	1.00	.00	.00	.00	.00	.00	.0	
17...	1124	19.0	.00	.00	.00	.00	.00	.0	
AUG									
20...	1105	1.00	<.10	<.10	<.10	<.10	<.10	<2.0	
20...	1109	20.0	<.10	<.10	<.10	<.10	<.10	<2.0	
DATE	TIME	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
FEB									
17...		.0	.0	.00	.0	.00	.00	.00	.0
17...		.0	.0	.00	.0	.00	.00	.00	.0
AUG									
20...		<.1	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
20...		<.1	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

301601097454001 TOWN LAKE SITE FC
WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
17...	1110	1.00	562	7.6	19.0	7.2	79
AUG							
20...	1050	1.00	650	7.2	22.5	6.9	80
20...	1052	3.00	650	7.3	22.5	7.0	81

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.--39,009 mi² (101,033 km²), approximately, of which 11,403 mi² (29,534 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. Since 1937, at least 10 percent of drainage area regulated by reservoirs. Flow largely regulated by Lake Travis (station 08154500). The city of Austin diverts water for municipal use upstream from station and returns sewage effluent downstream. Many other diversions above Lake Buchanan for irrigation, municipal supplies, and oilfield operations. Gage-height telemeter at station.

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); 46 years (water years 1937-82) regulated, 2,010 ft³/s (56.92 m³/s), 1,456,000 acre-ft/yr (1.80 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, 22,500 ft³/s (637 m³/s) May 13 at 1100 hours, gage height, 19.27 ft (5.873 m); minimum daily, 56 ft³/s (1.59 m³/s) Feb. 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	562	3560	3160	458	92	484	1960	1710	3430	3690	2540	2850
2	928	3120	3310	432	91	726	2160	1680	3070	3620	2210	2710
3	586	3180	1960	344	68	404	1950	1810	3370	3720	2600	2750
4	575	3240	176	2430	73	382	1860	1830	3270	3430	2290	2650
5	106	3270	92	3780	1920	638	2580	1700	3360	3720	2920	2730
6	2240	3350	105	1850	1310	1380	999	2120	3190	3730	2720	2770
7	1240	2510	102	105	1040	1370	956	1340	3070	3230	2870	2640
8	274	2850	96	97	1160	2080	1220	1290	2840	3730	2540	2350
9	310	2580	94	91	2290	198	1130	1280	2750	3400	3060	2490
10	164	2310	91	90	1950	162	1040	1290	2750	3290	2450	2170
11	163	2690	94	1170	1240	162	996	1260	2610	2780	3320	2140
12	555	2130	1160	335	1150	367	1230	1300	2710	3550	3020	2150
13	319	2680	1320	92	1300	659	1620	7250	2460	2270	2980	2180
14	2260	1430	1370	82	252	722	2050	2700	2680	2930	1910	2120
15	3510	355	1020	90	258	860	1820	2390	2740	3630	2510	2240
16	3520	1350	628	85	672	847	1820	2290	2820	3680	2660	2130
17	3570	1220	185	77	604	906	1770	2360	2600	3470	2560	1910
18	3140	1510	589	78	820	900	1740	2640	2660	2810	2520	1930
19	3270	1830	1130	117	415	1200	2150	2710	2760	2840	2710	1870
20	3520	1530	673	83	270	1350	2020	2200	2750	2910	2630	2090
21	3260	1280	706	72	56	1500	1860	2270	2760	3330	2570	1930
22	3580	1210	666	72	97	1800	2950	1830	2810	3330	2590	2280
23	3550	1790	825	63	308	2100	1800	1850	2790	3280	2490	1940
24	3550	1960	739	61	72	2300	1840	2070	2760	2540	2130	1630
25	3580	1420	1170	70	1360	2000	1730	2730	2750	2010	2260	1440
26	3550	795	713	58	2870	2350	1690	3650	3650	2060	2100	1460
27	3530	2360	809	61	551	2320	1670	3360	3920	2180	1880	1460
28	3570	855	1040	78	110	1940	1790	3290	3700	2250	2010	1040
29	3560	956	776	63	---	1960	1830	3290	3700	2850	3000	959
30	3320	1970	846	129	---	1920	1720	3270	3670	2880	2510	984
31	3540	---	126	61	---	1940	---	3080	---	3600	2630	---
TOTAL	69402	61291	25771	12674	22399	37927	51951	73840	90400	96740	79190	61993
MEAN	2239	2043	831	409	800	1223	1732	2382	3013	3121	2555	2066
MAX	3580	3560	3310	3780	2870	2350	2950	7250	3920	3730	3320	2850
MIN	106	355	91	58	56	162	956	1260	2460	2010	1880	959
AC-FT	137700	121600	51120	25140	44430	75230	103000	146500	179300	191900	157100	123000

CAL YR 1981 TOTAL 930815 MEAN 2550 MAX 22100 MIN 52 AC-FT 1846000
WTR YR 1982 TOTAL 683578 MEAN 1873 MAX 7250 MIN 56 AC-FT 1356000

COLORADO RIVER BASIN

08158000 COLORADO RIVER AT AUSTIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1947 to October 1973. Chemical and biochemical 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 Jan. 26; minimum daily, 289 micromhos Oct. 7.
WATER TEMPERATURES: Maximum daily, 25.0°C on several days during May and October; minimum daily, 7.0°C Feb. 7.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)
NOV 16...	1000	1460	436	7.4	19.5	3.3	10.0	109	1.0	480	110	190
DEC 14...	0820	156	495	7.9	18.0	.90	7.3	78	.8	170	680	210
MAR 01...	0925	2910	459	8.2	14.5	1.5	10.6	104	.9	80	100	190
APR 29...	0745	89	471	7.5	18.0	.80	6.6	70	.2	480	60	200
JUL 12...	1020	3600	466	7.8	22.5	3.9	8.3	98	.9	92	560	190
AUG 18...	0905	2760	476	7.8	26.0	2.0	7.4	92	.6	5000	350	190

DATE	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)	ALKALINITY, FIELD AS (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	IODIDE, DIS-SOLVED (MG/L AS I)	SILICA, DIS-SOLVED (MG/L AS SiO2)
NOV 16...	37	45	18	21	.7	3.3	150	34	34	1.3	--	10
DEC 14...	26	53	18	20	.6	3.1	180	30	35	.3	--	9.9
MAR 01...	39	46	18	22	.7	3.5	150	29	40	.3	--	8.7
APR 29...	39	50	18	22	.7	3.2	160	29	41	.3	--	7.1
JUL 12...	35	46	18	22	.7	3.3	154	21	39	.2	--	9.5
AUG 18...	41	45	19	24	.8	3.4	150	30	42	.2	--	9.0

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DIS-CHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 16...	260	257	--	.34	.170	1.20	.020	.010	4	16	44
DEC 14...	277	278	--	.49	.100	.57	.020	.040	3	1.3	89
MAR 01...	259	258	--	.25	.110	.48	.050	.050	11	86	82
APR 29...	271	267	--	.26	.080	.49	<.010	<.010	7	1.7	100
JUL 12...	270	252	<.020	.26	.060	2.60	<.010	.020	9	87	95
AUG 18...	337	263	--	.15	.100	.90	.040	.030	18	134	32

COLORADO RIVER BASIN

08158000 COLORADO RIVER AT AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC TOTAL (UG/L)	ARSENIC SUS- PENDE D TOTAL (UG/L)	ARSENIC DIS- SOLVED (UG/L)	BARIUM, TOTAL RECOV- ERABLE (UG/L)	BARIUM, SUS- PENDE D RECOV- ERABLE (UG/L)	BARIUM, DIS- SOLVED (UG/L)	CADMIUM TOTAL RECOV- ERABLE (UG/L)	CADMIUM DIS- SOLVED (UG/L)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L)	CHRO- MIUM, DIS- SOLVED (UG/L)	COBALT, TOTAL RECOV- ERABLE (UG/L)	
NOV 16...	1000	1	0	1	100	40	65	<1	<1	<10	<10	<1	
MAR 01...	0925	2	0	2	100	40	65	<1	1	10	<10	<1	
APR 29...	0745	1	0	1	100	30	69	<1	<3	<10	<10	<1	
AUG 18...	0905	1	0	1	100	30	66	<1	<1	<10	<10	<1	
DATE	AS CO	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE D RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS P B)	LEAD, SUS- PENDE D RECOV- ERABLE (UG/L AS P B)	LEAD, DIS- SOLVED (UG/L AS P B)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE D RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	
NOV 16...	<3	4	0	5	80	<10	4	0	4	10	7	3	
MAR 01...	<3	11	8	3	70	<10	4	2	2	10	8	2	
APR 29...	<1	12	11	1	30	<9	6	5	1	20	10	6	
AUG 18...	1	4	2	2	170	<3	3	--	<1	30	30	4	
DATE	AS HG	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE D RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE D RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 16...	.1	<.1	<1	--	<1	<1	<1	<1	<1	<1	10	6	4
MAR 01...	<.1	<.1	1	--	<1	<1	<1	<1	<1	<1	20	--	<3
APR 29...	<.1	<.1	<1	--	<1	<1	<1	<1	<1	<1	10	--	<12
AUG 18...	<.1	<.1	7	4	3	<1	<1	<1	<1	<1	10	6	4

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1981 TO SEPTEMBER 1982

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.	1981	69402	437	237	44500	36	6720	27	5010	170
NOV.	1981	61291	448	244	40300	37	6140	28	4560	180
DEC.	1981	25771	468	254	17700	39	2730	29	2010	190
JAN.	1982	12674	473	257	8800	40	1370	29	1000	190
FEB.	1982	22399	473	257	15500	40	2410	29	1770	190
MAR.	1982	37927	464	252	25900	39	3980	29	2940	180
APR.	1982	51951	452	246	34500	38	5260	28	3900	180
MAY	1982	73840	446	242	48300	37	7340	27	5460	180
JUNE	1982	90400	461	250	61100	38	9380	28	6930	180
JULY	1982	96740	466	253	66200	39	10200	29	7520	180
AUG.	1982	79190	479	260	55600	40	8660	30	6340	190
SEPT	1982	61993	510	277	46400	44	7390	32	5340	200
TOTAL		683578	**	**	465000	**	71600	**	52800	**
WTD. AVG.		1873	463	252	**	39	**	29	**	180

COLORADO RIVER BASIN
08158000 COLORADO RIVER AT AUSTIN, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	460	443	464	515	554	500	453	448	471	465	467	512
2	458	444	445	500	567	491	455	450	478	459	469	507
3	449	444	442	532	578	477	465	449	461	465	472	500
4	430	443	463	475	541	483	455	451	467	461	465	497
5	459	445	497	445	450	473	461	456	461	463	473	500
6	350	444	512	443	460	478	468	440	455	464	478	505
7	289	454	491	493	505	476	463	447	461	473	467	510
8	393	462	524	505	494	490	456	458	454	464	489	501
9	413	452	528	511	460	480	454	456	463	451	472	495
10	433	467	546	523	466	505	457	454	470	461	484	504
11	415	446	499	475	483	523	456	457	456	465	470	506
12	433	456	489	468	443	467	457	455	446	466	471	510
13	459	442	460	510	471	459	453	422	463	474	472	508
14	440	438	449	516	468	466	456	400	466	478	475	514
15	433	442	472	515	467	464	451	379	461	468	478	526
16	430	436	452	508	486	460	456	436	427	438	476	511
17	436	443	471	515	483	457	461	450	461	483	478	512
18	443	445	497	519	490	462	456	433	462	478	479	511
19	442	443	479	536	473	466	454	453	458	479	486	514
20	440	448	460	523	478	461	451	451	460	477	492	512
21	444	447	474	528	492	460	457	455	469	466	489	511
22	445	470	461	523	500	461	395	451	462	461	483	526
23	441	474	486	527	486	455	442	461	469	466	485	521
24	438	446	459	557	492	454	461	462	468	469	482	514
25	439	444	470	556	511	458	446	461	466	461	483	516
26	449	443	506	643	457	467	467	457	456	469	481	517
27	451	447	501	563	474	454	456	459	444	470	484	519
28	449	442	491	514	491	455	459	467	462	471	487	521
29	446	451	488	551	---	460	448	456	463	468	485	525
30	453	448	469	548	---	455	451	455	462	467	486	520
31	448	---	465	565	---	459	---	458	---	465	487	---
MEAN	433	448	481	519	490	470	454	448	461	467	479	512

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.5	21.5	18.5	13.5	14.0	13.5	---	15.5	20.5	19.5	---	24.0
2	25.0	20.5	18.0	---	14.0	14.0	14.5	16.5	20.5	19.5	22.0	24.0
3	25.0	20.5	17.0	13.5	14.0	14.5	14.0	16.5	20.5	19.0	22.0	---
4	25.0	21.0	17.0	---	14.0	14.5	15.5	16.0	24.5	19.0	21.5	---
5	25.0	---	17.0	13.0	14.0	14.0	15.0	17.0	---	19.0	21.5	---
6	25.0	20.5	16.5	13.0	10.0	13.5	13.0	17.0	18.0	20.0	22.0	---
7	24.5	21.0	16.5	14.5	7.0	13.0	15.5	16.5	18.0	20.0	23.0	24.0
8	24.5	20.5	16.5	13.0	8.5	13.0	15.0	15.5	18.5	20.0	21.5	24.0
9	23.0	20.5	17.0	13.0	8.5	13.0	15.5	18.5	18.5	19.5	22.0	---
10	23.0	20.0	18.5	13.0	8.5	13.5	15.5	18.0	18.5	20.0	22.0	24.0
11	24.0	21.5	17.0	10.5	9.0	---	14.0	18.0	18.5	20.0	22.0	24.0
12	23.5	19.0	18.5	9.0	---	16.0	15.0	18.0	18.5	20.0	21.5	24.0
13	23.0	18.5	16.0	9.0	9.0	15.5	15.0	18.5	18.5	20.5	22.0	24.0
14	24.5	18.5	16.0	9.0	9.5	---	15.5	---	19.0	20.5	23.0	24.0
15	24.5	18.5	15.5	9.0	9.5	15.5	15.5	---	18.5	20.0	23.0	24.0
16	24.5	19.5	15.0	10.5	10.0	15.5	15.5	23.0	19.0	20.5	23.0	24.0
17	25.0	19.0	15.5	10.0	11.5	---	16.5	23.0	20.0	21.0	23.5	24.0
18	24.5	19.0	14.0	10.0	12.0	16.5	15.5	---	18.5	21.0	23.5	23.5
19	23.5	19.5	13.0	10.5	13.0	17.0	15.0	24.0	18.5	21.0	23.5	24.0
20	23.0	18.5	13.0	10.5	13.0	17.0	16.0	24.0	20.0	21.0	23.0	24.5
21	23.0	18.5	13.5	12.0	13.5	17.0	---	25.0	19.0	21.0	23.0	24.5
22	23.0	18.5	14.0	12.0	14.5	---	15.0	22.0	20.0	21.5	23.0	23.5
23	22.0	19.0	14.0	12.0	14.0	18.0	15.0	20.5	19.0	21.5	23.5	23.5
24	21.0	18.5	13.5	12.0	14.0	17.0	14.0	20.5	18.5	21.5	22.0	23.5
25	23.0	18.5	13.0	14.5	15.0	17.0	15.0	22.0	18.5	21.0	23.0	23.5
26	21.0	19.0	13.0	14.5	11.5	16.5	15.0	20.5	20.0	21.0	23.0	24.0
27	20.0	18.5	13.0	14.5	13.0	16.5	15.5	25.0	19.5	21.0	23.5	24.0
28	20.5	18.5	13.0	14.5	13.0	13.5	15.0	25.0	19.0	21.0	23.5	23.5
29	21.0	18.5	13.0	14.5	---	13.5	15.0	---	19.0	21.0	23.0	24.0
30	21.0	19.0	13.0	14.5	---	13.5	15.5	21.0	19.0	21.0	24.0	23.0
31	21.0	---	13.0	15.0	---	13.5	---	25.0	---	21.5	24.0	---
MEAN	23.5	19.5	15.0	12.0	12.0	15.0	15.0	20.0	19.0	20.5	22.5	24.0

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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	
NOV 02...	1045	2800	470	8.0	20.0	5	3.3	8.6	95	.4	270	100
DEC 10...	1035	160	595	7.6	17.5	5	1.6	5.7	59	3.2	200	50
MAR 08...	1055	2000	466	8.1	13.0	5	4.0	12.4	118	1.7	71	33
APR 12...	1045	100	481	7.2	17.0	<1	1.5	11.2	117	1.0	190	76
JUN 21...	1110	1130	473	8.1	22.0	5	2.1	9.3	107	.8	83	140
AUG 23...	1205	--	505	7.2	26.5	5	2.3	6.8	85	1.1	400	440

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)	ALKALINITY, FIELD (MG/L AS CaCO3)	SULFATE, DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS Cl)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SiO2)
NOV 02...	180	27	43	17	23	.8	3.5	150	28	41	.2	8.8
DEC 10...	200	27	51	17	39	1.3	5.8	170	42	56	.9	12
MAR 08...	190	32	47	18	25	.9	3.5	160	33	31	.3	8.4
APR 12...	190	34	48	18	22	.7	3.5	160	31	41	.3	8.9
JUN 21...	190	39	46	18	24	.8	3.6	150	29	39	.3	9.6
AUG 23...	190	27	45	18	25	.9	3.3	160	30	44	.3	9.2

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	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, TOTAL (MG/L AS C)
NOV 02...	255	1	1	.41	.040	.45	.260	.64	.90	.130	3.4
DEC 10...	326	10	17	2.7	.240	2.9	2.50	1.1	3.60	1.70	5.7
MAR 08...	262	8	8	.52	.020	.54	.560	.44	1.00	.240	3.7
APR 12...	269	3	3	1.1	.070	1.2	.460	.64	1.10	.360	3.6
JUN 21...	260	9	10	.55	.020	.57	.210	.89	1.10	.160	3.3
AUG 23...	271	4	<1	.46	.040	.50	.220	.68	.90	.210	6.0

COLORADO RIVER BASIN

08158650 COLORADO RIVER BELOW AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
NOV 02...	1045	2	63	<1	<10	1	<10
MAR 08...	1055	1	64	<1	<10	1	5
APR 12...	1045	1	64	<3	<10	2	<9
AUG 23...	1205	1	68	<1	<10	2	<3

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 02...	1	3	<.1	<1	<1	<3
MAR 08...	3	8	.1	<1	<1	4
APR 12...	<1	8	<.1	<1	<1	<12
AUG 23...	1	6	<.1	1	<1	5

DATE	TIME	AME- TRYNE TOTAL (UG/L)	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
MAR 08...	1055	.00	.00	.00	.00	.00	<2.0	.0
JUN 21...	1110	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

DATE	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
MAR 08...	.0	.00	<2.0	<2.0	.00	.00	.0
JUN 21...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

BULL CREEK DRAINAGE BASIN

The surface-water hydrologic data for the Bull Creek drainage basin for the 1982 water year are given in the following pages:

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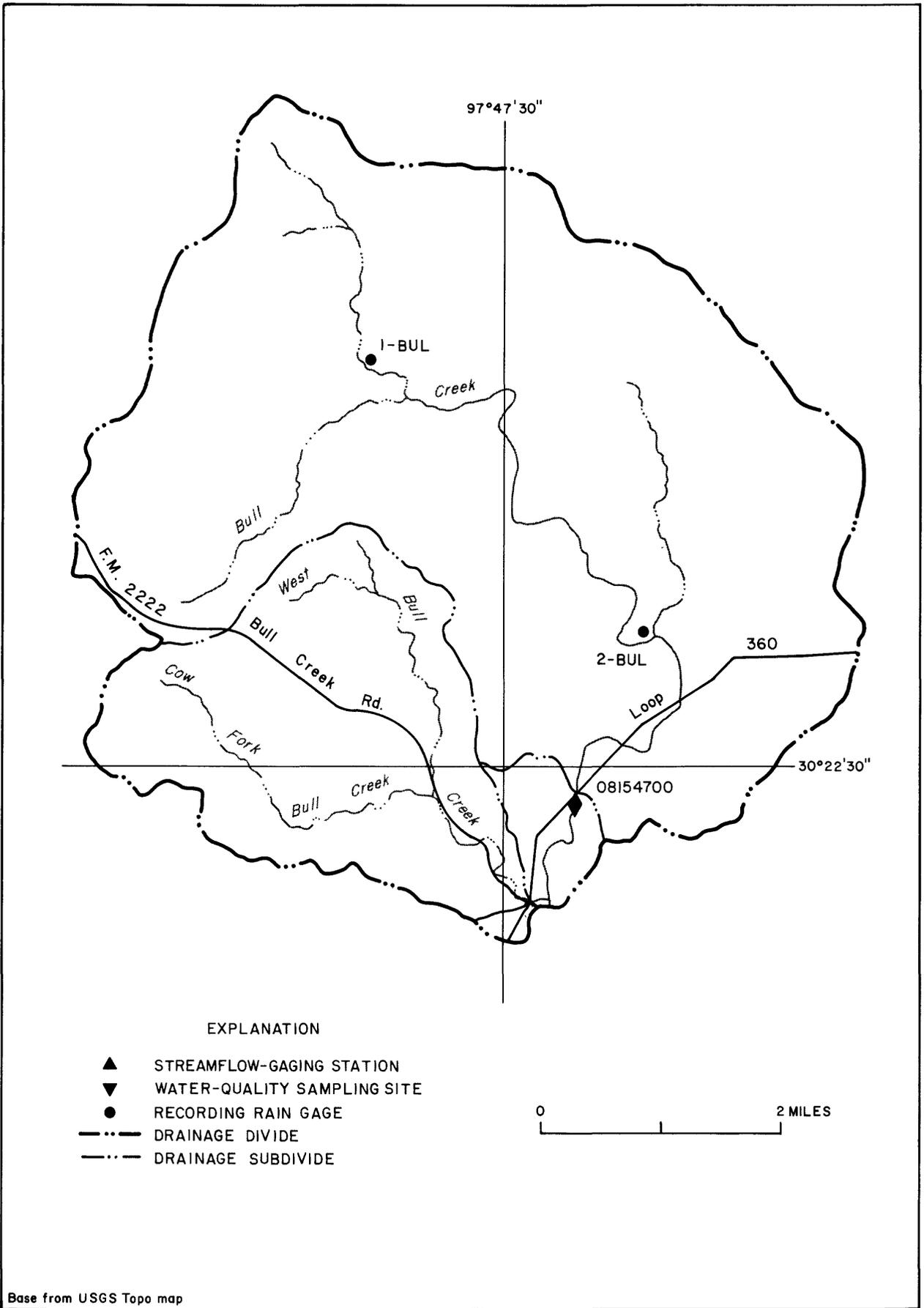


Figure 6.-Locations of surface-water data-collection sites in the Bull Creek drainage basin

Table 3.--Storm rainfall-runoff data, 1982 water year, Bull Creek drainage basin

Date of Storm	Duration (hours)	Rainfall (inches)		Runoff (inches)	Ratio of runoff to rainfall	Maximum discharge (ft ³ /s)		
		Total	Maximum increment					
		15-minute	30-minute	60-minute				
May 13, 1982	8	5.42	1.37	2.21	3.09	2.13	0.39	13,700

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 watershed. 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, 13,700 ft³/s (388 m³/s) May 13, 1982, gage height, 11.96 ft (3.645 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	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)
Oct. 6	0930	423	12.0	4.65	1.417
May 13	0900	*13,700	388	11.96	3.645

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.92	8.8	3.4	2.7	3.9	4.7	4.6	7.5	5.9	2.9	.25	.25
2	.92	6.0	3.4	2.7	3.7	4.7	4.4	6.9	5.1	2.5	.24	.25
3	2.4	5.4	3.4	2.7	3.7	4.7	3.9	6.4	5.0	2.0	.20	.33
4	2.1	4.9	3.4	2.7	3.7	4.6	3.4	6.0	4.7	1.8	.16	.32
5	1.6	4.7	3.3	2.7	3.7	4.3	3.4	5.7	3.4	1.7	.16	.21
6	91	4.5	3.0	2.8	4.0	4.4	3.2	16	4.0	1.4	.16	.15
7	24	4.2	3.0	3.0	4.2	4.3	3.0	8.4	3.9	1.3	.12	.11
8	12	6.5	3.0	2.9	3.7	4.1	3.0	6.7	3.4	1.1	.15	.12
9	11	5.8	3.0	2.7	3.6	4.1	3.3	6.3	3.4	1.0	.22	.12
10	8.3	5.0	3.0	2.7	3.4	4.1	3.4	6.1	3.3	.89	.20	.12
11	7.7	4.7	3.2	2.7	3.4	4.1	3.3	6.1	3.0	.81	.12	.12
12	6.8	4.7	3.5	3.5	3.4	4.1	3.0	6.1	6.8	.72	.14	.12
13	11	4.7	3.4	3.7	3.4	4.1	3.0	1170	4.4	.63	.16	.15
14	6.4	4.6	3.3	3.5	3.4	4.4	3.0	66	3.6	.61	.16	.20
15	5.7	4.4	3.2	3.4	3.4	4.4	3.0	37	3.2	.54	.16	.23
16	5.4	4.2	3.0	3.4	3.4	4.4	3.0	26	5.1	.50	.12	.22
17	5.0	4.1	3.0	3.4	3.4	4.4	2.9	24	3.9	.42	.12	.20
18	4.4	3.9	3.0	3.9	3.2	4.3	2.7	19	3.3	.38	.12	.16
19	3.4	3.7	3.0	4.6	3.0	3.8	3.4	17	3.0	.37	.12	.62
20	3.0	3.5	3.0	3.7	4.3	4.1	7.4	14	2.7	.34	.12	2.7
21	2.7	3.4	3.0	3.7	3.7	4.1	5.9	13	2.4	.34	.12	.68
22	3.7	3.4	3.0	3.7	3.3	4.1	38	12	2.5	.52	.11	.45
23	3.4	3.3	2.9	3.3	3.0	4.7	18	12	2.7	.61	.09	.34
24	3.0	3.4	2.7	3.0	3.0	4.6	24	19	2.4	.36	.09	.34
25	2.7	3.4	2.7	3.0	3.9	4.1	18	14	2.8	.33	.09	.34
26	2.7	3.4	2.7	3.0	6.7	3.8	13	12	4.5	.29	.09	.34
27	2.4	3.4	2.7	3.0	5.0	4.4	11	10	18	.29	.09	.33
28	2.4	3.4	2.7	3.0	4.8	5.0	9.8	9.3	4.9	.29	.09	.29
29	2.2	3.4	2.7	3.0	---	5.0	8.6	8.1	3.9	.29	.12	.29
30	6.8	3.4	2.7	4.6	---	5.0	7.7	7.1	3.3	.29	.65	.29
31	13	---	2.7	4.5	---	4.9	---	6.7	---	.25	.40	---
TOTAL	258.04	132.2	94.0	101.2	105.3	135.8	224.3	1584.4	128.5	25.77	5.14	10.39
MEAN	8.32	4.41	3.03	3.26	3.76	4.38	7.48	51.1	4.28	.83	.17	.35
MAX	91	8.8	3.5	4.6	6.7	5.0	38	1170	18	2.9	.65	2.7
MIN	.92	3.3	2.7	2.7	3.0	3.8	2.7	5.7	2.4	.25	.09	.11
CFSM	.37	.20	.14	.15	.17	.20	.34	2.29	.19	.04	.008	.02
IN.	.43	.22	.16	.17	.18	.23	.37	2.64	.21	.04	.01	.02
AC-FT	512	262	186	201	209	269	445	3140	255	51	10	21

CAL YR 1981	TOTAL	6972.91	MEAN	19.1	MAX	760	MIN	.88	CFSM	.86	IN	11.63	AC-FT	13830
WTR YR 1982	TOTAL	2805.04	MEAN	7.69	MAX	1170	MIN	.09	CFSM	.35	IN	4.68	AC-FT	5560

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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)
APR 23...	0810	20	498	8.2	14.0	5	7.6	9.8	96	1.4	880	6400
MAY 13...	0240	190	475	--	--	--	--	--	--	--	10000	35000
13...	0300	308	380	--	--	15	330	--	--	3.4	12000	64000
13...	1415	416	359	8.2	19.5	40	90	9.0	101	1.8	7200	34000
JUL 26...	0915	.29	571	8.1	27.0	5	1.1	7.5	96	.8	920	460

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)	ALKALINITY, FIELD (MG/L AS CaCO3)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
APR 23...	220	47	62	15	20	.6	2.1	170	40	29	.2	7.8
MAY 13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 26...	220	57	57	18	29	.9	2.8	160	68	40	.3	12

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 (MG/L AS N)	NITROGEN, NITRITE (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 23...	278	15	15	--	<.020	.66	.070	.53	.60	.030	3.8
MAY 13...	--	--	--	--	<.020	.13	.200	3.0	3.20	.320	30
13...	--	426	57	.26	.060	.32	.150	1.5	1.60	.320	20
13...	--	179	34	.77	.020	.79	.120	.82	.94	.120	13
JUL 26...	323	<2	<2	--	<.020	<.10	.060	1.2	1.30	<.010	2.4

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)
APR 23...	0810	1	44	<3	<10	1	11
MAY 13...	0240	1	40	<3	<10	2	20
JUL 26...	0915	1	41	<1	<10	<1	4

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 23...	<1	<3	<.1	<1	<1	<12
MAY 13...	6	<3	<.1	<1	1	<12
JUL 26...	<1	2	<.1	<1	<1	<3

COLORADO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
APR 23...	0810	<.10	<.10	.10	<.10	<.10	<2.0	<.1
MAY 13...	0240	<.10	<.10	<.10	<.10	<.10	<2.0	<.1
JUL 26...	0915	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

DATE	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
APR 23...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
MAY 13...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
JUL 26...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STORM MAINFALL AND RUNOFF RECORD									
1982 WATER YEAR									
STORM OF MAY 13, 1982									
DATE & TIME	160L	180L	200L	220L	240L	260L	280L	300L	320L
BULL CREEK AT LOOP 360, AUSTIN, TEXAS									
STATION NO. 08154700									
ACCUM. PRECIP.									
DISCHARGE IN									
ACCUM. RUNOFF									
MAY 13									
0645	5.28	5.38						11200.0	0.5881
0655	5.30	5.40						12500.0	0.7001
0700	5.31	5.42						13700.0	0.7795
0705	5.32	5.42						13500.0	0.8467
0715	5.34	5.44						13100.0	1.0864
0730	5.35	5.46						10400.0	1.2670
0745	5.40	5.46						6910.0	1.3871
1000	5.35	5.47						5100.0	1.5200
1030	5.35	5.47						3030.0	1.6253
1100	5.35	5.47						1770.0	1.6714
1115	5.35	5.47						1410.0	1.7204
1200	5.35	5.47						902.0	1.7595
1230	5.36	5.47						686.0	1.7774
1245	5.36	5.48						614.0	1.7987
1330	5.36	5.48						458.0	1.8289
1430	5.36	5.48						391.0	1.8697
1630	5.36	5.48						250.0	1.9153
1945	5.37	5.48						135.0	1.9504
2400	5.37	5.48						92.0	1.9768
MAY 14									
0000	5.37	5.48						52.0	1.9768
0600	5.37	5.48						72.0	2.0296
1600	5.37	5.48						57.0	2.0613
2400	5.37	5.48						44.0	2.0827
MAY 15									
0000	5.37	5.48						44.0	2.0827
1200	5.37	5.48						38.0	2.1219
2400	5.37	5.48						25.0	2.1340

BEE CREEK DRAINAGE BASIN

The surface-water hydrologic data for the Bee Creek drainage basin for the 1982 water year are given in the following pages:

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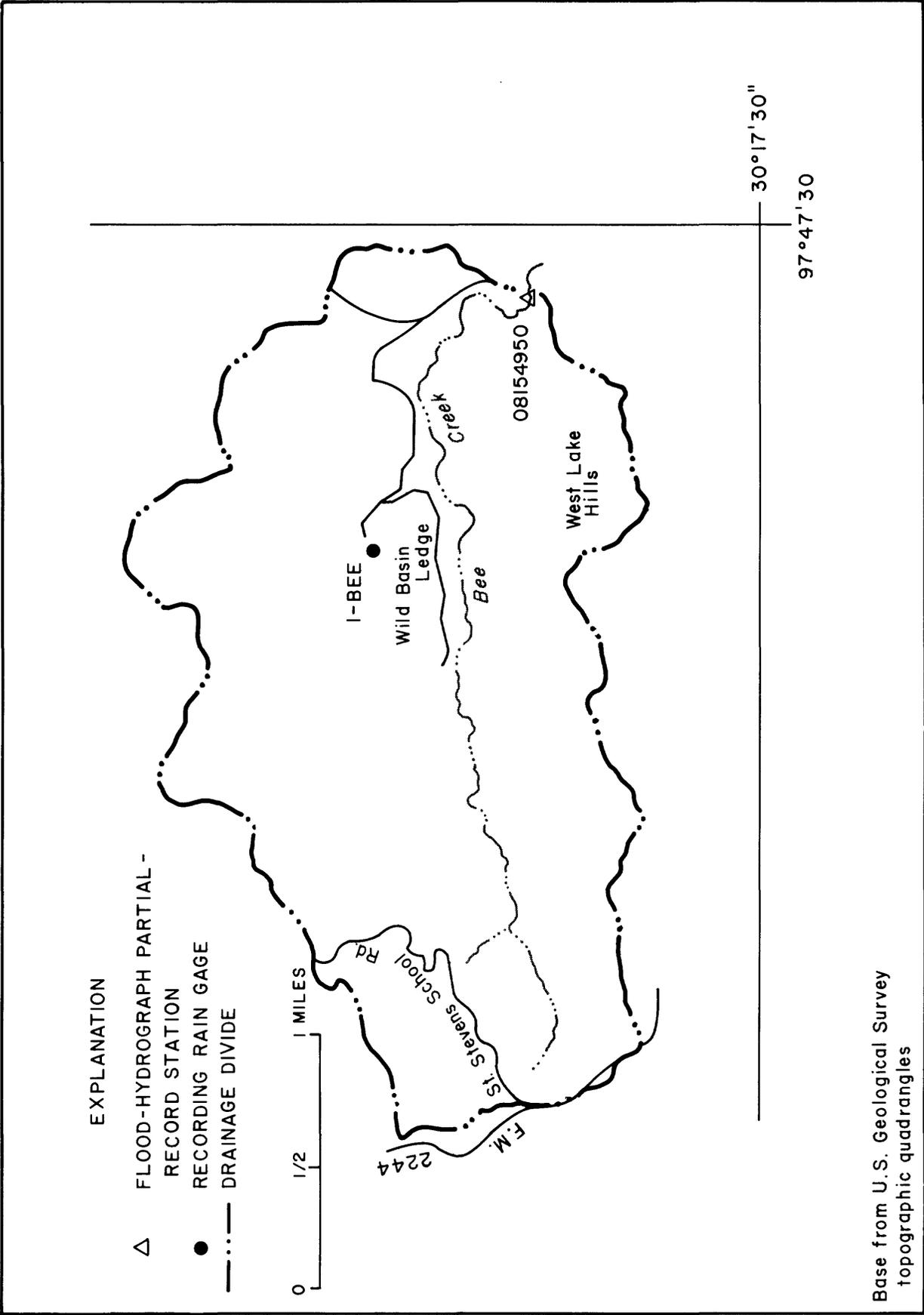
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Base from U.S. Geological Survey topographic quadrangles

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 gage)

LOCATION.--Lat 30°18'11", long 94°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 September 1982 (discontinued)

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, 11,000 ft³/s, May 24, 1981 (gage height, 23.20 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 960 ft³/s, May 13 (gage height, 8.52 ft).

BARTON CREEK AND BARTON SPRINGS DRAINAGE BASINS

The surface-water hydrologic data for the Barton Creek and Barton Springs drainage basins for the 1982 water year are given in the following pages:

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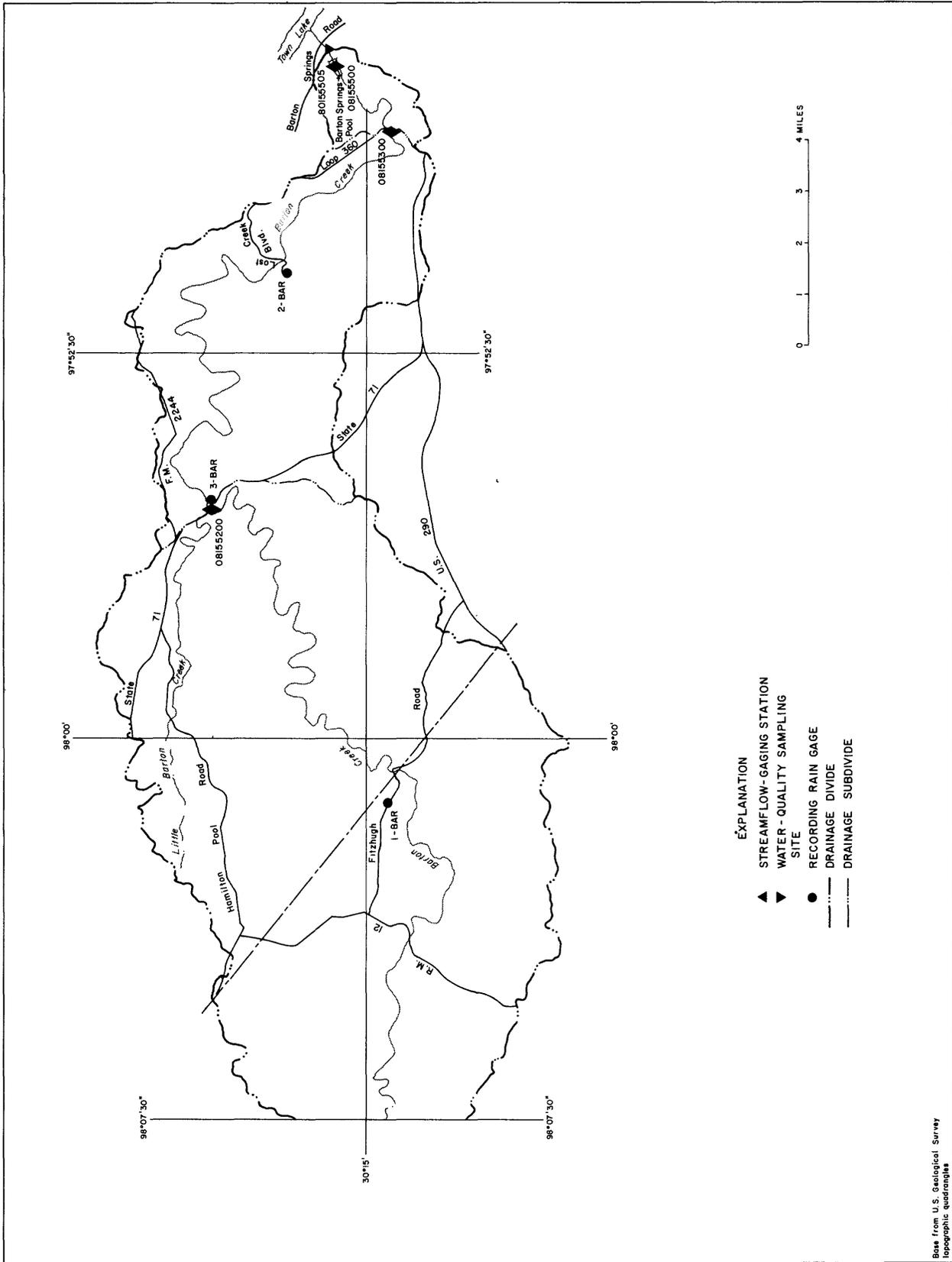


Figure 8. Locations of surface-water data-collection sites in the Barton Creek drainage basin

Table 4.--Storm rainfall-runoff data, 1982 water year, Barton Creek drainage basin

Date of Storm	Duration (hours)	Rainfall (inches)			Runoff (inches)	Ratio of runoff to rainfall	Maximum discharge (ft ³ /s)
		Total	15-minute	Maximum increment 30-minute			
May 13, 1982	8	3.71	0.82	1.46	2.21	0.90	7,120
May 13, 1982	8	3.87	.82	1.46	2.21	.74	7,740

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 September 1982 (discontinued).

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. No known regulation or diversions. There are two recording rain gages in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,120 ft³/s (230 m³/s) June 11, 1981, gage height, 15.64 ft (4.767 m); no flow for many days each year except 1981.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 6	1300	3,880 110	a10.4 3.17
May 13	1300	*7,120 202	a14.5 4.42

a From floodmark.

Minimum daily discharge, 0.02 ft³/s (0.001 m³/s) Sept. 28-30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.51	33	15	7.0	4.1	3.1	3.3	23	27	9.9	.64	.10
2	.42	27	14	7.0	4.0	3.0	3.2	22	26	9.4	.60	.09
3	.48	24	14	6.7	3.5	2.9	3.1	22	24	8.7	.55	.09
4	.45	23	13	5.8	3.3	2.9	2.8	20	30	8.2	.50	.11
5	.42	22	12	5.6	3.2	2.8	2.8	19	39	8.1	.45	.10
6	854	22	11	6.0	3.2	2.8	2.6	29	30	7.8	.42	.09
7	176	21	11	6.1	3.1	2.8	2.6	28	25	7.0	.70	.09
8	96	26	11	5.6	3.1	2.8	2.7	23	22	5.6	1.1	.08
9	61	30	11	5.6	3.1	2.8	2.7	21	20	4.3	.41	.08
10	47	23	11	5.6	3.1	2.8	2.7	21	21	4.1	.32	.07
11	43	22	11	5.6	3.1	2.9	2.7	21	18	3.6	.27	.07
12	38	21	10	6.3	3.0	2.9	2.8	22	25	3.6	.25	.07
13	37	19	9.6	6.8	2.9	2.9	2.5	1720	29	3.6	.23	.07
14	34	18	8.7	7.0	2.9	2.9	2.7	298	22	3.5	.21	.08
15	30	17	9.0	7.0	2.9	2.9	2.7	172	19	3.1	.19	.08
16	28	16	9.5	6.3	2.9	2.9	2.6	145	21	2.9	.18	.08
17	26	17	9.6	6.1	2.9	2.9	2.5	215	19	2.7	.17	.07
18	25	17	8.6	5.8	2.8	2.9	2.5	150	15	2.2	5.6	.05
19	23	17	7.8	5.8	2.7	2.9	2.9	118	13	1.9	1.1	.15
20	22	17	8.4	5.8	2.7	2.8	3.4	98	12	1.8	.21	.15
21	22	16	9.0	5.8	2.7	2.8	3.9	84	12	1.5	.17	.05
22	24	16	9.0	5.8	2.7	2.8	20	75	68	1.5	.18	.05
23	27	16	7.8	5.6	2.8	3.4	31	65	83	1.4	.20	.04
24	24	16	7.6	5.4	2.8	3.5	31	78	22	1.3	.20	.04
25	23	16	7.1	5.2	2.8	3.4	36	67	17	1.2	.19	.04
26	21	16	7.3	4.8	3.7	3.2	29	54	16	1.1	.18	.03
27	20	16	7.0	4.8	3.2	3.3	27	48	15	1.0	.17	.03
28	19	15	7.0	4.8	2.8	3.3	25	44	12	.90	.14	.02
29	19	15	6.8	4.8	---	3.4	24	39	11	.84	.12	.02
30	19	15	6.8	5.2	---	3.5	23	35	10	.76	.10	.02
31	24	---	6.9	4.6	---	3.4	---	31	---	.70	.10	---
TOTAL	1784.28	589	297.5	180.3	86.0	93.6	305.7	3807	723	114.20	15.85	2.11
MEAN	57.6	19.6	9.60	5.82	3.07	3.02	10.2	123	24.1	3.68	.51	.070
MAX	854	33	15	7.0	4.1	3.5	36	1720	83	9.9	5.6	.15
MIN	.42	15	6.8	4.6	2.7	2.8	2.5	19	10	.70	.10	.02
CFSM	.64	.22	.11	.07	.03	.03	.11	1.37	.27	.04	.006	.001
IN.	.74	.24	.12	.07	.04	.04	.13	1.58	.30	.05	.01	.00
AC-FT	3540	1170	590	358	171	186	606	7550	1430	227	31	4.2

CAL YR 1981	TOTAL	30423.12	MEAN	83.4	MAX	3000	MIN	.42	CFSM	.93	IN	12.62	AC-FT	60340
WTR YR 1982	TOTAL	7998.54	MEAN	21.9	MAX	1720	MIN	.02	CFSM	.24	IN	3.32	AC-FT	15870

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 September 1982 (discontinued).
Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, KF AGAR (COLS. PER 100 ML)	
OCT 06...	1115	2220	131	8.2	22.5	90	530	--	--	5.6	44000	100000
APR 23...	1340	31	396	8.2	16.5	5	1.0	10.3	106	1.9	440	540
JUL 26...	1034	1.2	387	8.1	28.5	<1	.70	7.3	96	.3	96	1300

DATE	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	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
OCT 06...	70	4	21	4.3	4.1	.2	2.1	66	5.0	2.7	.1	6.1
APR 23...	190	19	51	15	6.8	.2	1.1	170	18	11	.2	7.7
JUL 26...	190	11	50	16	7.4	.3	1.2	180	18	11	.3	11

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 06...	78	604	100	.12	.070	.19	.180	1.1	1.30	.130	32
APR 23...	213	4	4	--	<.020	<.10	<.060	--	.28	.010	1.9
JUL 26...	223	<2	<2	--	<.020	.10	.100	.40	.50	.180	1.7

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)
OCT 06...	1115	2	5	<1	0	2	68
APR 23...	1340	1	21	<3	<10	1	<9
JUL 26...	1034	1	25	2	<10	<1	5

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 06...	2	7	.0	0	0	7
APR 23...	4	<3	<.1	<1	<1	<12
JUL 26...	<1	2	<.1	<1	<1	3

COLORADO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
OCT 06...	1115	.00	.00	.00	.00	.00	.0	.0
APR 23...	1340	<.10	<.10	<.10	<.10	<.10	<2.0	<.1
JUL 26...	1034	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

DATE	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
OCT 06...	.0	.00	.0	.00	.00	.00	.0
APR 23...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
JUL 26...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STORM RAINFALL AND RUNOFF RECORD										1982 WATER YEAR	
STORM OF MAY 13, 1982										DISCHARGE	ACCUM.
DATE & TIME	IBAR	3BAK	GAUGE	NUMBER	PRECIP.	IN.	CFS	IN.	IN.	IN.	IN.
MAY 13											
0000	0.0	0.0								0.0001	0.0001
0045	0.02	0.01								0.0005	0.0005
0145	0.17	0.14								0.0002	0.0002
0215	0.48	0.61								0.0012	0.0012
0300	0.54	0.89								0.0019	0.0019
0515	0.55	0.85								0.0025	0.0025
0530	0.55	0.89								0.0028	0.0028
0600	0.62	0.90								0.0034	0.0034
0645	0.71	1.22								0.0039	0.0039
0700	0.82	1.42								0.0043	0.0043
0715	0.97	2.03								0.0052	0.0052
0730	1.23	2.73								0.0065	0.0065
0745	1.72	3.15								0.0078	0.0078
0800	2.54	3.00								0.0053	0.0053
0815	3.18	3.91								0.0111	0.0111
0830	3.27	3.21								0.0135	0.0135
0845	3.36	4.30								0.0227	0.0227
0930	3.45	4.42								0.0505	0.0505
0945	3.46	4.42								0.0657	0.0657
1000	3.46	4.43								0.0812	0.0812
1015	3.46	4.43								0.0967	0.0967
1030	3.46	4.43								0.1086	0.1086
1045	3.46	4.43								0.1287	0.1287
1115	3.46	4.43								0.1649	0.1649
1145	3.46	4.43								0.2004	0.2004
1200	3.46	4.43								0.2262	0.2262
1215	3.46	4.43								0.2538	0.2538
1230	3.46	4.43								0.2822	0.2822
1245	3.46	4.43								0.3120	0.3120
1300	3.46	4.43								0.3428	0.3428
1315	3.46	4.43								0.4328	0.4328
1430	3.47	4.43								0.5228	0.5228
1515	3.47	4.43								0.5488	0.5488
1530	3.47	4.43								0.5808	0.5808
1645	3.48	4.43								0.6087	0.6087
1730	3.48	4.43								0.6267	0.6267
1815	3.48	4.43								0.6351	0.6351
1845	3.48	4.43								0.6562	0.6562
2015	3.48	4.43								0.6673	0.6673

STORM RAINFALL AND RUNOFF RECORD										1982 WATER YEAR			
STA. NO. 06155200													
BARTON CREEK AT U.S. HWY. 71, AUSTIN, TEXAS													
STORM OF MAY 13, 1982													
DATE & TIME	IBAK	3BAK	DATE	TIME	PRECIP.	PRECIP.	PRECIP.	PRECIP.	PRECIP.	PRECIP.	DISCHARGE	ACCUM.	ACCUM.
					IN.	IN.	IN.	IN.	IN.	IN.	IN	IN	IN
MAY 13													
2030	3.48	4.43							3.71		717.0	0.6704	
2045	3.48	4.43							3.71		967.0	0.6805	
2215	3.48	4.43							3.71		574.0	0.6966	
2400	3.48	4.43							3.71		489.0	0.7125	
MAY 14													
0000	3.48	4.43							3.71		489.0	0.7125	
0400	3.48	4.43							3.71		378.0	0.7470	
0800	3.48	4.43							3.71		313.0	0.7687	
1200	3.48	4.43							3.71		278.0	0.7879	
1600	3.48	4.43							3.71		251.0	0.8052	
2000	3.48	4.43							3.71		223.0	0.8206	
2400	3.48	4.43							3.71		205.0	0.8348	
MAY 15													
0000	3.48	4.43							3.71		205.0	0.8348	
0800	3.48	4.43							3.71		176.0	0.8662	
1600	3.48	4.43							3.71		165.0	0.8850	
2400	3.48	4.43							3.71		140.0	0.8987	

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 (30⁷ 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.--Water discharge records fair except those below 5 ft³/s (0.14 m³/s), which are poor. No known regulation or diversions. There are three recording rain gages located in the watershed.

AVERAGE DISCHARGE.--5 years, 39.6 ft³/s (1.12 m³/s), 4.64 in/yr (118 mm/yr), 28,700 acre-ft/yr (35.4 hm³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,100 ft³/s (513 m³/s) May 25, 1981, gage height, 15.03 ft (4.581 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, 7,740 ft³/s (219 m³/s) May 13 at 1600 hours, gage height, 9.83 ft (2.996 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 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	6.5	.00	.00	.00	.00	.00	.00	42	.00	.00	.00		
2	.00	12	.00	.00	.00	.00	.00	.00	33	.00	.00	.00		
3	.00	3.4	.00	.00	.00	.00	.00	.00	26	.00	.00	.00		
4	.00	.64	.00	.00	.00	.00	.00	.00	24	.00	.00	.00		
5	.00	.10	.00	.00	.00	.00	.00	.00	15	.00	.00	.00		
6	935	.00	.00	.00	.00	.00	.00	10	12	.00	.00	.00		
7	230	.00	.00	.00	.00	.00	.00	15	6.3	.00	.00	.00		
8	119	.00	.00	.00	.00	.00	.00	8.7	3.7	.00	.00	.00		
9	69	.00	.00	.00	.00	.00	.00	4.1	1.2	.00	.00	.00		
10	43	.00	.00	.00	.00	.00	.00	1.6	.42	.00	.00	.00		
11	33	.00	.00	.00	.00	.00	.00	.42	.10	.00	.00	.00		
12	26	.00	.00	.00	.00	.00	.00	.14	.04	.00	.00	.00		
13	17	.00	.00	.00	.00	.00	.00	1780	1.2	.00	.00	.00		
14	10	.00	.00	.00	.00	.00	.00	342	1.4	.00	.00	.00		
15	6.3	.00	.00	.00	.00	.00	.00	177	.37	.00	.00	.00		
16	4.8	.00	.00	.00	.00	.00	.00	136	.04	.00	.00	.00		
17	1.6	.00	.00	.00	.00	.00	.00	168	.00	.00	.00	.00		
18	.52	.00	.00	.00	.00	.00	.00	148	.00	.00	.00	.00		
19	.16	.00	.00	.00	.00	.00	.00	116	.00	.00	.00	.00		
20	.05	.00	.00	.00	.00	.00	2.6	103	.00	.00	.00	.00		
21	.00	.00	.00	.00	.00	.00	.00	93	.00	.00	.00	.00		
22	.00	.00	.00	.00	.00	.00	.00	83	.00	.00	.00	.00		
23	.00	.00	.00	.00	.00	.00	9.6	73	79	.00	.00	.00		
24	.00	.00	.00	.00	.00	.00	16	90	27	.00	.00	.00		
25	.00	.00	.00	.00	.00	.00	25	92	2.0	.00	.00	.00		
26	.00	.00	.00	.00	.00	.00	18	78	.02	.00	.00	.00		
27	.00	.00	.00	.00	.00	.00	12	51	9.5	.00	.00	.00		
28	.00	.00	.00	.00	.00	.00	3.0	60	.25	.00	.00	.00		
29	.00	.00	.00	.00	---	.00	1.0	57	.00	.00	.00	.00		
30	.00	.00	.00	.00	---	.00	.14	60	.00	.00	.00	.00		
31	.00	---	.00	.00	---	.00	---	53	---	.00	.00	---		
TOTAL	1495.43	22.64	.00	.00	.00	.00	87.34	3799.96	284.54	.00	.00	.00		
MEAN	48.2	.75	.000	.000	.000	.000	2.91	123	9.48	.000	.000	.000		
MAX	935	12	.00	.00	.00	.00	25	1780	79	.00	.00	.00		
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
CFSM	.42	.006	.000	.000	.000	.000	.03	1.06	.08	.000	.000	.000		
IN.	.48	.01	.00	.00	.00	.00	.03	1.22	.09	.00	.00	.00		
AC-FT	2970	45	.00	.00	.00	.00	173	7540	564	.00	.00	.00		
CAL YR 1981	TOTAL	40502.08	MEAN	111	MAX	6430	MIN	.00	CFSM	.96	IN	12.99	AC-FT	80340
WTR YR 1982	TOTAL	5689.91	MEAN	15.6	MAX	1780	MIN	.00	CFSM	.13	IN	1.82	AC-FT	11290

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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
06...	1505	256	306	--	--	20	1100	--	--	12	78000	86000
06...	1535	3050	248	--	--	30	660	--	--	5.4	30000	21000
06...	1735	5240	166	7.7	--	60	960	--	--	6.7	80000	38000
06...	1835	3920	145	--	--	120	900	--	--	5.6	70000	48000
06...	2135	912	141	7.9	--	120	660	--	--	5.0	50000	18000
07...	0940	172	228	8.1	23.5	40	130	--	--	2.1	14000	8400
MAY												
13...	0835	410	233	8.0	21.0	40	780	8.4	98	2.4	8000	12000
13...	0900	1200	290	--	--	--	--	--	--	--	--	--
13...	1400	3360	203	--	--	60	270	--	--	2.6	26000	85000
13...	1502	4160	196	--	--	90	440	--	--	4.3	35000	80000
14...	0930	382	366	8.0	20.0	20	64	8.4	94	.8	5100	4000

DATE	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	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)
OCT												
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	79	2	24	4.6	1.8	.1	2.4	77	5.0	3.5	.1	5.8
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	70	1	22	3.7	1.2	.1	2.5	69	5.0	3.5	.1	5.6
07...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
13...	110	15	32	6.2	3.4	.2	1.8	90	15	5.2	.2	5.2
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT											
06...	--	1180	136	.20	.080	.28	.240	2.0	2.20	.320	45
06...	--	776	116	.12	.070	.19	.170	1.8	2.00	.100	27
06...	86	1240	148	.09	.100	.19	.250	3.3	3.50	.120	41
06...	--	810	125	.11	.080	.19	.200	1.1	1.30	.530	35
06...	79	716	120	.10	.090	.19	.230	1.3	1.50	.060	25
07...	--	135	12	.20	.030	.23	.160	.62	.78	.040	9.4
MAY											
13...	123	1320	151	--	<.020	.20	.170	1.2	1.40	.730	27
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	342	39	.23	.040	.27	.140	1.2	1.30	.280	13
13...	--	744	90	.14	.030	.17	.090	2.2	2.30	.270	31
14...	--	86	25	--	<.020	.37	.110	.68	.79	.050	5.5

COLORADO RIVER BASIN

08155300 BARTON CR AT LOOP 360, AUSTIN, TX.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT							
06...	1505	1	31	<1	0	1	<10
06...	1735	1	12	<1	0	6	16
07...	0940	1	19	<1	0	1	<10
MAY							
13...	0900	1	24	<3	<10	3	42
SEP							
19...	2313	--	--	0	--	--	89

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						
06...	1	<1	.0	0	0	5
06...	2	1	.0	0	0	<3
07...	6	<1	.0	0	0	3
MAY						
13...	5	<3	<.1	<1	<1	<12
SEP						
19...	1	--	--	--	--	220

DATE	TIME	AME- TRYNE TOTAL (UG/L)	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
OCT								
06...	1505	.00	.00	.00	.00	.00	.0	.0
07...	0940	.00	.00	.00	.00	.00	.0	.0
MAY								
13...	0900	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

DATE	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
OCT							
06...	.0	.00	.0	.00	.00	.00	.0
07...	.0	.00	.0	.00	.00	.00	.0
MAY							
13...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STATION NO. 06195300

STORM RAINFALL AND RUNOFF RECORD

1982 WATER YEAR

BAKTON GREEN AT LOOP 300, AUSTIN, TEXAS

STORM OF MAY 13, 1982

DATE & TIME	IBAR	3BAR	GAGE NUMBER	PRECIP.	ACCUM. PRECIP.	DISCHARGE IN	ACCUM. RUNOFF IN.
MAY 13							
0000	0.0	0.0		0.0	0.0	45.0	0.0002
0045	0.02	0.01		0.02	0.0008	45.0	0.0008
0145	0.17	0.14		0.16	0.0011	41.0	0.0011
0200	0.32	0.27		0.30	0.0012	40.0	0.0012
0215	0.44	0.41		0.33	0.0014	39.0	0.0014
0230	0.54	0.56		0.47	0.0015	37.0	0.0015
0300	0.54	0.69		0.68	0.0019	35.0	0.0019
0400	0.55	0.69		0.69	0.0027	47.0	0.0027
0530	0.55	0.69		0.69	0.0032	38.0	0.0032
0600	0.62	0.56		0.76	0.0034	35.0	0.0034
0615	0.66	1.10		0.84	0.0036	57.0	0.0036
0645	0.71	1.22		0.92	0.0041	100.0	0.0041
0700	0.82	1.42		1.07	0.0046	122.0	0.0046
0715	0.97	2.03		1.40	0.0056	322.0	0.0056
0730	1.23	2.73		1.84	0.0074	523.0	0.0074
0745	1.72	3.15		2.31	0.0098	723.0	0.0098
0800	2.54	3.60		2.57	0.0125	923.0	0.0125
0815	3.16	3.91		3.48	0.0162	997.0	0.0162
0830	3.27	4.21		3.66	0.0216	1070.0	0.0216
0900	3.41	4.50		3.80	0.0338	1220.0	0.0338
1000	3.46	4.43		3.86	0.0457	1150.0	0.0457
1100	3.46	4.43		3.86	0.0716	1640.0	0.0716
1200	3.46	4.43		3.86	0.1015	2240.0	0.1015
1300	3.46	4.43		3.86	0.1464	3360.0	0.1464
1400	3.47	4.43		3.86	0.1921	3870.0	0.1921
1500	3.47	4.43		3.86	0.2704	6150.0	0.2704
1545	3.47	4.43		3.86	0.3155	7350.0	0.3155
1600	3.47	4.43		3.86	0.3454	7740.0	0.3454
1615	3.47	4.43		3.86	0.3533	7180.0	0.3533
1700	3.46	4.43		3.87	0.4576	5500.0	0.4576
1800	3.46	4.43		3.87	0.4520	2570.0	0.4520
1900	3.48	4.43		3.87	0.5179	1940.0	0.5179
2000	3.48	4.43		3.87	0.5360	1360.0	0.5360
2100	3.48	4.43		3.87	0.5477	869.0	0.5477
2200	3.45	4.43		3.87	0.5626	747.0	0.5626
2400	3.45	4.43		3.87	0.5745	594.0	0.5745
MAY 14							
0000	3.48	4.43		3.87	0.5745	594.0	0.5745
0200	3.48	4.43		3.87	0.5923	518.0	0.5923
0400	3.48	4.43		3.87	0.6045	454.0	0.6045

NOTE: RAIN GAGE 2-BAR INOPERATIVE FOR THIS STORM.

STORM RAINFALL AND RUNOFF RECORD										1982 WATER YEAR	
STATION NO. 08155300											
BAKION CREEK AT LOOP 360, AUSTIN, TEXAS											
STORM OF MAY 13, 1982											
DATE & TIME	IBAK	JBAR	GAUGE	NUMBER	WATER	WEIGHTED	ACCUM.	DISCHARGE	IN	ACCUM.	RUNOFF
						IN.					IN.
MAY 14											
0600	3.48	4.43				3.87		410.0		0.6264	
1200	3.48	4.43				3.87		314.0		0.6454	
1700	3.48	4.43				3.87		260.0		0.6685	
2300	3.48	4.43				3.87		216.0		0.6786	
2400	3.48	4.43				3.87		213.0		0.6825	
MAY 15											
0000	3.48	4.43				3.87		213.0		0.6825	
0400	3.48	4.43				3.87		195.0		0.7001	
1100	3.48	4.43				3.87		174.0		0.7233	
2400	3.48	4.43				3.87		150.0		0.7364	

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, 91 ft³/s (2.58 m³/s) Oct. 11, 12; minimum daily, 34 ft³/s (0.96 m³/s) Sept. 21-27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	85	80	67	56	51	42	50	70	66	49	38
2	81	86	79	67	57	51	41	49	70	65	49	38
3	81	86	79	67	56	51	41	49	69	65	47	38
4	81	86	79	67	55	51	41	48	69	64	47	38
5	81	85	79	66	55	51	41	48	70	64	47	38
6	82	85	79	64	54	50	40	48	70	63	47	38
7	84	85	78	63	54	49	40	48	70	62	46	38
8	86	85	78	63	51	48	40	48	69	61	46	37
9	88	85	78	62	50	48	41	49	69	60	46	37
10	90	85	77	62	50	48	41	49	68	60	45	37
11	91	85	77	62	49	47	40	48	68	59	45	36
12	91	85	75	62	49	47	40	48	70	59	45	37
13	90	84	76	62	50	46	40	54	70	59	44	36
14	90	84	76	62	53	45	40	60	70	57	44	36
15	89	84	76	61	53	45	38	66	69	56	44	35
16	88	84	75	61	53	44	37	71	69	56	44	35
17	88	84	75	60	53	44	38	72	68	55	43	35
18	87	84	75	59	52	43	38	72	67	55	43	35
19	87	83	75	58	52	42	38	73	66	54	43	35
20	87	82	74	58	52	42	41	73	65	54	43	35
21	86	82	72	57	52	42	41	73	64	53	43	34
22	86	81	72	57	52	46	46	73	65	53	42	34
23	85	81	71	56	52	46	50	72	67	52	42	34
24	84	81	70	56	51	47	51	72	67	52	41	34
25	84	81	70	56	50	46	51	72	67	51	41	34
26	85	81	70	55	51	44	51	72	67	51	40	34
27	85	80	69	55	52	42	51	71	67	50	40	34
28	85	80	69	55	51	43	51	71	67	50	40	35
29	85	80	68	54	---	42	50	71	67	50	40	36
30	85	80	68	55	---	42	50	71	67	50	40	36
31	85	---	68	55	---	42	---	70	---	50	39	---
TOTAL	2658	2499	2307	1864	1465	1425	1290	1911	2041	1756	1355	1077
MEAN	85.7	83.3	74.4	60.1	52.3	46.0	43.0	61.6	68.0	56.6	43.7	35.9
MAX	91	86	80	67	57	51	51	73	70	66	49	38
MIN	81	80	68	54	49	42	37	48	64	50	39	34
AC-FT	5270	4960	4580	3700	2910	2830	2560	3790	4050	3480	2690	2140

CAL YR 1981 TOTAL 27266 MEAN 74.7 MAX 105 MIN 46 AC-FT 54080
WTR YR 1982 TOTAL 21648 MEAN 59.3 MAX 91 MIN 34 AC-FT 42940

COLORADO RIVER BASIN

08155500 BARTON SPRINGS AT AUSTIN, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW- INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT									
05...	1340	81	589	6.7	22.0	7.0	81	88	45
06...	1325	82	600	7.0	22.0	6.6	77	53	K72
07...	0930	84	574	6.9	22.0	6.5	76	2100	4200
08...	1130	86	573	6.8	21.5	6.8	78	720	2700
09...	0950	88	558	6.9	21.5	6.6	77	150	420
13...	1310	90	438	7.6	24.5	8.5	102	260	180
19...	1345	87	530	7.5	20.0	9.2	100	33	22
26...	0900	85	531	7.6	16.5	9.1	96	61	150
NOV									
02...	0840	86	564	7.2	22.0	8.5	98	83	540
09...	0900	85	566	7.0	21.0	7.2	82	K11	38
16...	1400	84	566	7.1	20.0	7.0	77	K8	K4
24...	0900	81	588	7.2	21.0	6.5	73	K1	22
30...	0830	80	580	7.2	21.0	6.8	78	<1	K2
DEC									
07...	1015	78	585	7.1	21.0	7.0	80	K6	K3
14...	1045	76	590	7.2	21.0	6.4	72	K2	K1
21...	0905	72	583	7.1	21.0	6.4	74	K3	K5
29...	0930	68	583	7.1	20.0	6.6	73	34	K2
JAN									
05...	1045	66	588	7.2	21.0	5.3	60	K1	K8
11...	1330	62	598	7.2	20.5	6.2	69	K9	K4
18...	0900	59	604	7.2	21.0	6.8	77	31	K6
25...	0910	56	602	7.2	21.0	7.3	81	K8	K2
30...	1600	55	591	7.2	21.0	6.2	71	520	39
31...	0911	55	586	7.3	21.0	6.2	70	1400	1300
FEB									
01...	0905	56	577	--	14.0	8.8	86	K8	50
08...	0925	51	604	7.2	20.5	6.6	74	32	K4
16...	1415	53	618	7.2	21.0	5.6	64	4500	520
22...	0830	52	618	7.2	21.5	6.6	76	1100	120
MAR									
01...	1100	51	634	7.2	21.0	6.4	72	820	270
08...	0830	48	621	7.1	21.5	5.6	64	240	24
10...	0826	48	619	6.9	21.0	--	--	23	K6
15...	0845	45	624	7.1	21.0	5.8	67	170	K17
17...	0830	44	--	--	--	--	--	K9	K4
22...	0915	46	613	7.2	21.0	5.6	64	130	31
23...	0820	46	626	7.2	21.0	6.2	71	23	23
24...	1300	47	604	--	--	--	--	520	3200

COLORADO RIVER BASIN

08155500 BARTON SPRINGS AT AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT									
05...	16	--	<.020	1.4	.120	.49	.61	.010	.1
06...	19	--	<.020	1.5	.130	.87	1.00	.010	.5
07...	21	--	<.020	1.4	.120	.26	.38	.010	.3
08...	2	1.3	.020	1.3	.140	.17	.31	.010	.8
09...	2	1.3	.020	1.3	.100	.32	.42	.010	.2
13...	4	.51	.030	.54	.110	.27	.38	<.010	2.2
19...	6	--	<.020	.92	<.060	--	.45	.070	.8
26...	2	--	<.020	1.2	.070	.44	.51	.010	1.3
NOV									
02...	0	--	<.020	1.3	.090	.42	.51	.020	.1
09...	1	--	<.020	1.2	.120	.68	.80	.020	.4
16...	0	--	<.020	1.2	<.060	--	.59	<.010	.6
24...	0	--	<.020	1.4	.140	.10	.24	<.010	.5
30...	0	--	<.020	1.4	.160	.38	.54	<.010	.7
DEC									
07...	2	1.4	.020	1.4	.110	.16	.27	<.010	.2
14...	13	--	<.020	1.4	<.070	--	.81	.020	1.1
21...	14	--	<.020	1.4	<.070	--	.51	.010	.6
29...	40	--	<.020	1.4	.070	.53	.60	.020	1.5
JAN									
05...	11	--	<.020	1.4	<.070	--	.53	.020	1.0
11...	0	--	<.020	1.5	.070	.45	.52	.010	.6
18...	0	--	<.020	1.4	<.070	--	.71	.020	.9
25...	6	--	<.020	1.4	.070	.20	.27	.010	.1
30...	--	--	--	--	--	--	--	--	--
31...	2	--	<.020	1.4	<.070	--	.28	<.010	.6
FEB									
01...	--	--	--	--	--	--	--	--	--
08...	0	--	<.020	1.4	<.070	--	.22	<.010	.4
16...	9	--	<.020	1.6	<.060	--	.89	.020	.2
22...	0	--	<.020	1.5	<.060	--	.39	.010	.0
MAR									
01...	0	--	<.020	1.5	<.060	--	.38	.040	.2
08...	0	--	<.020	1.5	<.060	--	.45	.030	.2
10...	--	--	--	--	--	--	--	--	--
15...	4	--	<.020	1.3	.300	.17	.47	.010	.5
17...	--	--	--	--	--	--	--	--	--
22...	5	1.5	.000	1.5	.160	.56	.72	.000	.0
23...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--

COLORADO RIVER BASIN

08155500 BARTON SPRINGS AT AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCTANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCOCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR										
29...	0815	42	608	7.2	20.5	5.8	65	--	51	65
APR										
05...	0845	41	625	7.2	21.0	5.4	62	--	K16	K7
12...	0915	40	628	7.2	20.5	5.7	64	--	54	130
19...	0930	38	638	7.2	21.0	5.5	63	--	K12	K8
22...	0830	46	628	7.2	21.0	6.8	77	--	700	4800
23...	0955	50	564	7.2	21.0	5.6	63	--	1800	9600
24...	1035	51	577	7.2	20.5	6.2	70	--	960	1900
26...	1100	51	589	7.1	21.0	6.4	73	--	230	380
MAY										
03...	0900	49	584	7.2	20.5	6.2	70	--	48	K10
10...	0905	49	585	7.1	21.5	6.4	74	--	K11	K12
13...	1145	54	580	7.2	21.0	7.0	80	--	820	190
14...	0830	60	505	7.2	21.0	7.5	86	--	6100	11000
15...	1045	66	519	7.2	21.0	7.2	82	--	K1700	3000
17...	0800	72	552	7.2	21.0	7.2	82	--	180	500
24...	0830	72	560	7.2	21.5	6.8	79	--	K17	25
JUN										
01...	0825	70	565	7.2	21.5	5.8	67	--	K5	K5
07...	0830	70	549	7.1	22.0	6.2	72	--	K4	K3
14...	0825	70	570	7.0	22.0	6.4	74	--	K390	93
21...	0835	64	575	7.2	22.0	6.7	78	--	K9	K17
28...	0925	67	527	7.1	22.0	6.5	76	--	K340	3000
JUL										
06...	0900	63	585	7.1	22.0	6.2	72	--	K10	30
12...	1210	59	595	7.3	22.0	6.6	77	.7	K4	K3
21...	0820	53	574	7.1	21.5	5.3	61	--	K2	25
26...	0840	51	608	7.1	21.5	6.0	69	--	K4	24
AUG										
03...	0850	47	638	7.0	20.5	6.2	70	--	<1	K10
09...	0900	46	631	7.1	22.0	6.0	70	--	<1	K9
18...	0730	43	648	7.1	21.5	6.3	72	--	K1	K11
23...	0938	42	641	7.1	22.0	5.1	59	--	K3	K5
30...	0920	40	653	7.2	22.0	6.0	70	--	K4	45
SEP										
07...	0815	38	662	7.1	22.0	5.8	67	--	180	K5
13...	0855	36	668	7.1	22.0	5.5	64	--	K7	K3
20...	0856	35	674	7.1	22.0	5.1	59	--	K12	K5
27...	1000	34	682	7.2	22.0	5.4	64	--	K2	K5

COLORADO RIVER BASIN

08155500 BARTON SPRINGS AT AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR 29...	2	--	--	<.020	1.5	.060	.71	.77	<.010	.2
APR 05...	3	--	--	<.020	1.5	.070	.28	.35	<.010	.0
12...	<1	--	--	<.020	1.5	<.060	--	.27	<.010	.9
19...	<1	--	--	<.020	1.5	<.060	--	.36	<.010	1.0
22...	4	--	--	<.020	1.4	.080	.42	.50	.010	.4
23...	9	--	--	<.020	1.4	.090	.50	.59	.020	.8
24...	3	--	--	<.020	1.4	.080	.36	.44	.010	.6
26...	2	--	--	<.020	1.3	<.060	--	.38	.100	.7
MAY 03...	<1	--	--	<.020	1.0	<.060	--	.49	.250	1.2
10...	<2	--	--	<.020	1.2	.060	.21	.27	<.010	.3
13...	<2	--	--	<.020	1.3	.100	.89	.99	.030	.8
14...	31	--	--	<.020	1.2	.080	.57	.65	.050	2.5
15...	6	--	--	<.020	1.0	.100	.55	.65	.030	1.9
17...	6	--	--	<.020	.98	.080	.47	.55	.030	1.0
24...	<2	--	--	<.020	.87	.060	.84	.90	.040	.8
JUN 01...	3	--	.88	.020	.90	.110	.00	<.20	<.010	.7
07...	5	--	--	<.020	1.0	.040	.96	1.00	<.010	1.1
14...	3	--	--	<.020	1.1	<.060	--	.80	.050	.6
21...	<1	--	--	<.020	1.2	<.060	--	.80	.020	.5
28...	4	--	--	<.020	.96	.080	2.6	2.70	.010	.9
JUL 06...	<2	--	--	<.020	1.2	<.060	--	.90	.060	.7
12...	<2	<2	--	<.020	1.3	<.060	--	2.30	<.010	--
21...	<2	--	--	<.020	1.4	.060	1.8	1.90	.040	.1
26...	2	--	--	<.020	1.5	.070	1.4	1.50	.050	.3
AUG 03...	5	--	--	<.020	1.5	.080	.72	.80	<.010	.3
09...	<2	<1	--	<.020	1.5	.110	1.9	2.00	.020	.5
18...	6	--	--	<.020	1.5	.080	.72	.80	.010	.3
23...	7	--	--	<.020	1.5	.120	.38	.50	.020	.4
30...	2	--	--	<.020	1.4	<.060	--	1.20	<.010	<.1
SEP 07...	<1	--	--	<.020	1.6	.180	.52	.70	<.010	.1
13...	4	--	--	<.020	1.5	.070	.33	.40	.080	<.1
20...	2	--	--	<.020	1.5	.070	.43	.50	.060	<.1
27...	6	--	--	<.020	1.6	.070	.63	.70	.030	<.1

DATE	TIME	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	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)
MAY 14...	0830	15	44	256	36	76	16	8.2
JUL 12...	1210	<1	.90	280	20	79	20	15
AUG 09...	0900	<1	.50	293	33	81	22	19

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)
MAY 14...	.2	1.6	220	22	14	.4	12	282
JUL 12...	.4	1.3	260	24	23	.2	11	330
AUG 09...	.5	1.4	260	25	30	.3	11	346

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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, KF AGAR (COLS. PER 100 ML)	
JUL 26...	1115	51	607	7.6	21.5	<1	.50	8.3	97	.0	130 160	
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)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)
JUL 26...	280	280	24	79	21	16	.4	1.3	260	28	26	.2
DATE		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, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUL 26...	11	11	339	<2	<2	<.020	1.4	.090	.71	.80	<.010	.5
DATE				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)			
JUL 26...	1115			<1	51	<1	<10	<1	<3			
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)			
JUL 26...				<1	2	<.1	<1	<1	5			
DATE				AME-TRYNE TOTAL (UG/L)	ATRAZONE TOTAL (UG/L)	ATRAZINE TOTAL (UG/L)	CYANAZINE TOTAL (UG/L)	CYPRAZINE TOTAL (UG/L)	METHOXYL TOTAL (UG/L)	PROMETONE TOTAL (UG/L)		
JUL 26...	1115			<.10	<.10	<.10	<.10	<.10	<2.0	<.1		
DATE				PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETONE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)		
JUL 26...				<.1	<.10	<2.0	<2.0	<.10	<.10	<.1		

WEST BOULDIN CREEK DRAINAGE BASIN

The surface-water hydrologic data for the West Bouldin Creek drainage basin for the 1982 water year are given in the following pages:

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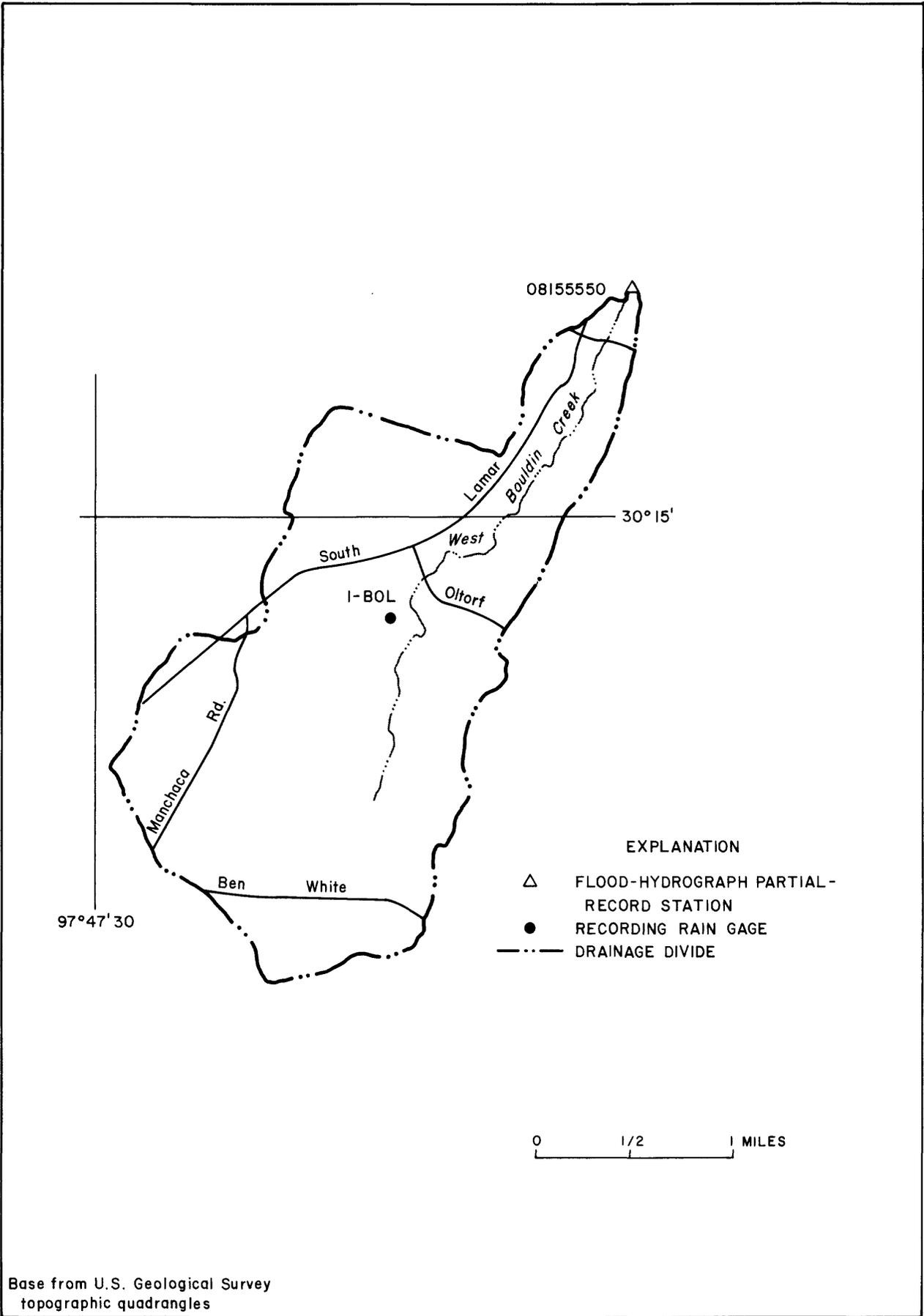


Figure 9.-Locations of surface-water data-collection sites in the West Bouldin Creek drainage basin

Table 5.--Storm rainfall-runoff data, 1982 water year, West Bouldin Creek drainage basin

Date of Storm	Duration (hours)	Rainfall (inches)		Runoff (inches)	Ratio of runoff to rainfall	Maximum discharge (ft ³ /s)
		Total	$\frac{\text{Maximum increment}}{\text{15-minute 30-minute 60-minute}}$			
West Bouldin Creek at Riverside Drive, Austin, Texas (Drainage area.--3.12 mi ²)						
May 13, 1982	9	4.45	1.05 1.67	0.79	0.18	675

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

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.

REVISED RECORDS.--Open-file report 82-506: 1977 maximum.

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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 675 ft³/s May 13 (gage height, 409 ft).

STA. NO. 0815550		STORM MAINFALL AND RUNOFF RECORD				1982 WATER YEAR			
WEST BOULAIN CREEK AT RIVERSIDE DRIVE, AUSTIN, TEXAS		STORM OF MAY 13, 1982				DISCHARGE ACCUM.			
DATE & TIME	ZIMS	GAGE	NUMBER	PRECIP.	IN.	CFS	IN.	IN.	IN.
MAY 13									
0915	4.28				4.28	571.0	0.4787		
0920	4.30				4.30	467.0	0.4981		
0925	4.32				4.32	480.0	0.5175		
0930	4.33				4.33	446.0	0.5364		
0935	4.43				4.43	434.0	0.5544		
0940	4.43				4.43	402.0	0.5753		
0950	4.43				4.43	262.0	0.6064		
1005	4.43				4.43	197.0	0.6227		
1010	4.43				4.43	191.0	0.6306		
1015	4.43				4.43	156.0	0.6403		
1025	4.43				4.43	136.0	0.6488		
1030	4.43				4.43	133.0	0.6558		
1045	4.43				4.43	101.0	0.6690		
1140	4.44				4.44	57.0	0.7209		
1300	4.44				4.44	38.0	0.7523		
1500	4.44				4.44	15.0	0.7710		
1800	4.45				4.45	7.5	0.7821		
2100	4.45				4.45	5.0	0.7856		
2400	4.45				4.45	2.0	0.7911		

SHOAL CREEK DRAINAGE BASIN

The surface-water hydrologic data for the Shoal Creek drainage basin for the 1982 water year are given in the following pages:

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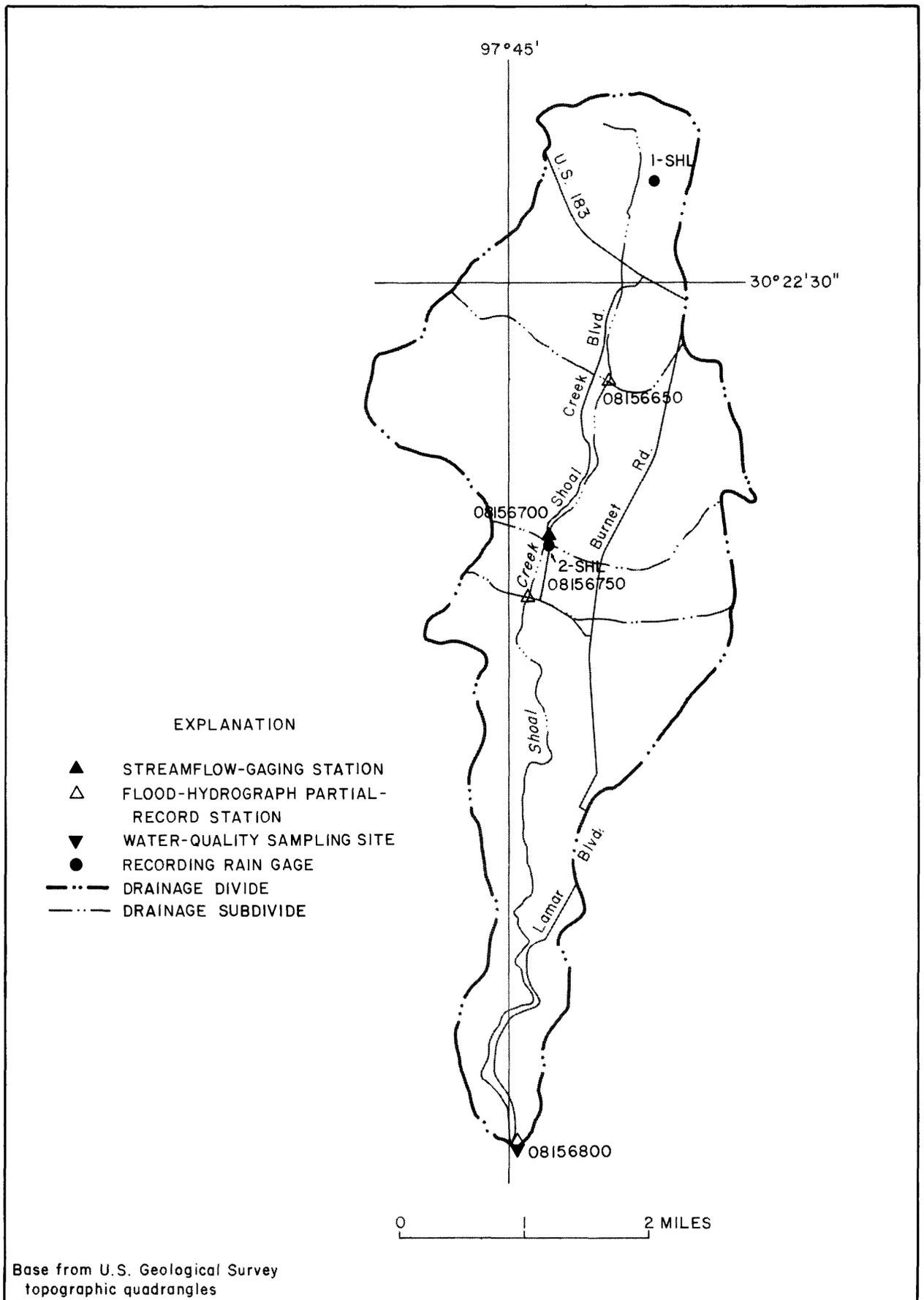


Figure 10.-Locations of surface-water data-collection sites in the Shoal Creek drainage basin

Table 6.--Storm rainfall-runoff data, 1982 water year, Shoal Creek drainage basin

Date of Storm	Duration (hours)	Rainfall (inches)			Runoff (inches)	Ratio of runoff to rainfall	Maximum discharge (ft ³ /s)
		Total	15-minute	Maximum increment 30-minute			
May 13, 1982	9	5.47	0.90	1.44	1.97	0.36	1,240
May 13, 1982	9	5.47	.91	1.47	2.36	.43	2,930
May 13, 1982	9	5.47	.90	1.44	2.83	.52	7,310

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

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.--2.79 mi² (revised).

PERIOD OF RECORD.--April 1975 to September 1982 (discontinued) Periodic measurements only, November 1974 to April 1975.

REVISED RECORDS.--Open-file report 82-506: 1976-79 maximum discharges.

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

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,100 ft³/s May 24, 1981 (gage height, 10.63 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft³/s May 13 (gage height, 5.30 ft).

STATION NO. 08150650									
STORM RAINFALL AND RUNOFF RECORD									
1982 WATER YEAR									
SMUAL CREEK AT STECK AVENUE, AUSTIN, TEXAS									
STORM OF MAY 13, 1982									
DATE & TIME	ISHL	GAUGE	NUMBER	PRECIP.	ACCUM.	DISCHARGE	IN	ACCUM.	RUNOFF
				IN.	IN.	CFS	IN.	IN.	IN.
MAY 13									
0000	0.0			0.0	0.0	0.5	0.5	0.0001	0.0001
0055	0.01			0.01	0.01			0.0003	0.0003
0100	0.07			0.07	0.07			0.0004	0.0004
0115	0.46			0.46	0.46			0.0012	0.0012
0135	0.73			0.73	0.73			0.0055	0.0055
0145	1.08			1.08	1.08			0.0135	0.0135
0150	1.15			1.15	1.15			0.0201	0.0201
0155	1.26			1.26	1.26			0.0392	0.0392
0210	1.47			1.47	1.47			0.0688	0.0688
0215	1.87			1.87	1.87			0.0865	0.0865
0250	2.30			2.30	2.30			0.1264	0.1264
0255	2.40			2.40	2.40			0.1565	0.1565
0240	2.42			2.42	2.42			0.2234	0.2234
0245	2.45			2.45	2.45			0.2484	0.2484
0250	2.46			2.46	2.46			0.2814	0.2814
0300	2.46			2.46	2.46			0.3103	0.3103
0305	2.46			2.46	2.46			0.3287	0.3287
0310	2.46			2.46	2.46			0.3445	0.3445
0315	2.46			2.46	2.46			0.3588	0.3588
0320	2.46			2.46	2.46			0.3717	0.3717
0325	2.46			2.46	2.46			0.3843	0.3843
0330	2.46			2.46	2.46			0.3954	0.3954
0335	2.46			2.46	2.46			0.4064	0.4064
0340	2.46			2.46	2.46			0.4167	0.4167
0345	2.46			2.46	2.46			0.4254	0.4254
0350	2.46			2.46	2.46			0.4336	0.4336
0355	2.46			2.46	2.46			0.4409	0.4409
0400	2.46			2.46	2.46			0.4525	0.4525
0415	2.46			2.46	2.46			0.4607	0.4607
0420	2.46			2.46	2.46			0.4665	0.4665
0435	2.46			2.46	2.46			0.4870	0.4870
0530	2.48			2.48	2.48			0.4945	0.4945
0630	2.60			2.60	2.60			0.4987	0.4987
0650	2.68			2.68	2.68			0.5028	0.5028
0700	3.14			3.14	3.14			0.5086	0.5086
0710	3.79			3.79	3.79			0.5310	0.5310
0715	3.90			3.90	3.90			0.5554	0.5554
0720	4.12			4.12	4.12			0.5890	0.5890

STORM RAINFALL AND RUNOFF RECORD									
SIA. NO. 08156650									
SMOAL CREEK AT STECK AVENUE, AUSTIN, TEXAS									
STORM OF MAY 13, 1982									
DATE & TIME	ISML	GAUGE	NUMBER	PRECIP.	WGT TEL	ACCUM.	DISCHARGE	IN	1982 WATER YEAR
				IN.	PRECIP.	IN.	CF5	IN.	
MAY 13									
0725	4.35			4.35		915.0		0.6313	
0730	4.52			4.52		1050.0		0.6799	
0735	4.72			4.72		1060.0		0.7250	
0740	4.82			4.82		1120.0		0.7808	
0745	4.86			4.86		1150.0		0.8340	
0750	4.90			4.90		1240.0		0.8914	
0755	4.95			4.95		1090.0		0.9419	
0800	5.00			5.00		1050.0		0.9805	
0805	5.05			5.05		981.0		1.0359	
0810	5.10			5.10		940.0		1.0754	
0815	5.16			5.16		936.0		1.1227	
0820	5.19			5.19		903.0		1.1645	
0825	5.22			5.22		816.0		1.2589	
0830	5.30			5.30		751.0		1.3458	
0835	5.32			5.32		728.0		1.3963	
0900	5.34			5.34		647.0		1.4413	
0905	5.36			5.36		596.0		1.4689	
0910	5.38			5.38		596.0		1.4964	
0915	5.40			5.40		564.0		1.5356	
0925	5.44			5.44		473.0		1.5754	
0935	5.45			5.45		473.0		1.6122	
0940	5.45			5.45		437.0		1.6324	
0945	5.45			5.45		387.0		1.6504	
0950	5.45			5.45		387.0		1.6772	
1000	5.45			5.45		336.0		1.7316	
1025	5.46			5.46		280.0		1.7835	
1040	5.46			5.46		235.0		1.8052	
1045	5.46			5.46		202.0		1.8146	
1050	5.46			5.46		200.0		1.8377	
1110	5.46			5.46		147.0		1.8615	
1125	5.46			5.46		122.0		1.8728	
1130	5.46			5.46		54.0		1.8754	
1140	5.46			5.46		85.0		1.8853	
1145	5.46			5.46		67.0		1.8946	
1210	5.46			5.46		60.0		1.9321	
1400	5.46			5.46		20.0		1.9533	
1600	5.47			5.47		5.0		1.9617	
2000	5.47			5.47		2.0		1.9661	
2400	5.47			5.47		1.0		1.9672	

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 (revised).--6.52 mi² (16.89 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 recording rain gages in the watershed. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years, 3.23 ft³/s (0.0915 m³/s), 6.73 in/yr (171 mm/yr), 2,340 acre-ft/yr (2.89 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,600 ft³/s (413 m³/s) May 24, 1981, gage height, 18.00 ft (5.486 m) from rating curve extended above 1,100 ft³/s (31.2 m³/s) on basis of slope-area measurement of 14,600 ft³/s (413 m³/s); no flow for several days each year except 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1885, occurred Apr. 22, 1915, stage and discharge unknown. Flood on Sept. 9, 1921, probably lower than the 1915 flood.

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

Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)
Oct. 6	0830	1,360	38.5	7.70	2.347
May 13	0800	*2,920	82.7	11.95	3.642
June 27	0010	1,020	28.9	7.65	2.332

Minimum discharge, no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.35	.10	.04	.04	.08	.04	.12	.02	.00	.00	.02
2	.05	.03	.05	.04	.07	.08	.04	.12	.02	.00	.00	.02
3	1.4	.02	.04	.05	.04	.09	.04	.14	.02	.00	.00	2.1
4	.10	.03	.04	.02	.04	.05	.02	.14	.02	.01	.00	.05
5	.07	.12	.04	.05	.07	.05	.02	.17	.00	.02	.00	.04
6	209	.59	.24	.07	.04	1.3	.03	42	.00	.02	.00	.03
7	30	.01	.14	.08	.03	.10	.04	.17	.00	.02	.00	.03
8	.68	24	.10	.04	.03	.06	.08	.08	.00	.02	.01	.03
9	4.4	.23	.14	.04	.04	.05	1.3	.07	.00	.00	.05	.03
10	.12	.06	.10	.04	.03	.11	.04	.10	.01	.00	.04	.02
11	.08	.04	.14	.03	.03	.09	.02	.07	.01	.00	.04	.02
12	.04	.04	.10	3.8	.03	.06	.02	1.4	20	.00	.04	.02
13	44	.04	.05	.20	.03	.06	.01	392	.17	.00	.04	.04
14	.27	.04	.05	.28	.03	.98	.02	12	.06	.00	.03	.02
15	.07	.04	.05	.05	.04	.18	.04	5.5	.04	.00	.02	.01
16	.04	.04	.82	.07	.05	.10	.04	4.1	16	.00	.01	.02
17	.03	.04	.04	.07	.05	.05	.04	29	.20	.00	.03	.03
18	.03	.02	.03	.08	.05	.05	.07	4.5	.10	.00	.04	.03
19	.03	.02	.03	.10	.04	.04	5.1	.82	.06	.00	.04	2.1
20	.03	.02	.20	.48	10	.05	25	.14	.02	.00	.04	8.7
21	.29	.02	.20	.05	.12	.05	1.2	.05	.02	.00	.02	.05
22	9.7	.02	.05	.05	.05	.78	136	11	.41	8.8	.01	.04
23	.24	.02	.04	.04	.04	16	6.5	2.6	.35	.70	.01	.04
24	.02	.02	.04	.04	.04	.18	25	60	.17	.04	.00	.04
25	.00	.03	.04	.04	9.2	.03	.82	1.5	4.4	.02	.00	.04
26	.00	.04	.04	.04	15	.71	.28	.48	10	.02	.00	.04
27	.00	.03	.04	.05	.24	6.0	.12	.20	46	.00	.00	.04
28	.00	.02	.03	.07	.12	.17	.10	.08	.01	.00	.00	.04
29	.00	.03	.03	.10	---	1.0	.10	.04	.04	.00	.00	.04
30	6.5	.27	.61	7.8	---	.89	.14	.03	.02	.00	.04	.04
31	14	---	.14	.11	---	.07	---	.02	---	.00	.03	---
TOTAL	321.24	26.28	3.76	14.02	35.59	29.51	202.27	568.64	98.17	9.67	.54	13.77
MEAN	10.4	.88	.12	.45	1.27	.95	6.74	18.3	3.27	.31	.017	.46
MAX	209	24	.82	7.8	15	16	136	392	46	8.8	.05	8.7
MIN	.00	.01	.03	.02	.03	.03	.01	.02	.00	.00	.00	.01
CFSM	1.60	.14	.02	.07	.20	.15	1.03	2.81	.50	.05	.003	.07
IN.	1.83	.15	.02	.08	.20	.17	1.15	3.24	.56	.06	.00	.08
AC-FT	637	52	7.5	28	71	59	401	1130	195	19	1.1	27

CAL YR 1981	TOTAL	3529.08	MEAN	9.67	MAX	803	MIN	.00	CFSM	1.48	IN	20.13	AC-FT	7000
WTR YR 1982	TOTAL	1323.46	MEAN	3.63	MAX	392	MIN	.00	CFSM	.56	IN	7.55	AC-FT	2630

STA. NO. 08150700		STORM RAINFALL AND RUNOFF RECORD				1982 WATER YEAR				
SHOAL CREEK AT NORTHWEST PARK, AUSTIN, TEXAS		STORM OF MAY 13, 1982								
DATE & TIME	SHL	GAGE	NUMBER	PRECIP.	ACCUM. PRECIP.	DISCHARGE IN	ACCUM. RUNOFF	PRECIP. IN.	CFS	IN.
MAY 13										
0000	0.0				0.0	0.1	0.0000	0.1		0.0000
0055	0.01				0.01	0.1	0.0000	0.1		0.0000
0100	0.07				0.07	0.1	0.0000	0.1		0.0000
0115	0.46				0.46	5.5	0.0002	5.5		0.0002
0120	0.62				0.62	42.0	0.0011	42.0		0.0011
0125	0.66				0.66	179.0	0.0064	179.0		0.0064
0135	0.73				0.73	410.0	0.0186	410.0		0.0186
0140	0.92				0.92	428.0	0.0271	428.0		0.0271
0145	1.08				1.08	428.0	0.0355	428.0		0.0355
0150	1.19				1.19	491.0	0.0453	491.0		0.0453
0155	1.26				1.26	632.0	0.0578	632.0		0.0578
0200	1.34				1.34	740.0	0.0724	740.0		0.0724
0205	1.39				1.39	776.0	0.0878	776.0		0.0878
0210	1.47				1.47	850.0	0.1046	850.0		0.1046
0215	1.87				1.87	1010.0	0.1246	1010.0		0.1246
0220	2.30				2.30	1270.0	0.1458	1270.0		0.1458
0225	2.38				2.38	1510.0	0.2056	1510.0		0.2056
0240	2.42				2.42	2140.0	0.2944	2140.0		0.2944
0245	2.45				2.45	2160.0	0.3371	2160.0		0.3371
0250	2.46				2.46	2130.0	0.3753	2130.0		0.3753
0255	2.46				2.46	1930.0	0.4176	1930.0		0.4176
0300	2.46				2.46	1410.0	0.4455	1410.0		0.4455
0305	2.46				2.46	1210.0	0.4654	1210.0		0.4654
0310	2.46				2.46	1090.0	0.5018	1090.0		0.5018
0320	2.46				2.46	788.0	0.5330	788.0		0.5330
0330	2.46				2.46	588.0	0.5680	588.0		0.5680
0350	2.46				2.46	346.0	0.5920	346.0		0.5920
0405	2.46				2.46	238.0	0.6085	238.0		0.6085
0425	2.46				2.46	158.0	0.6257	158.0		0.6257
0500	2.46				2.46	97.0	0.6478	97.0		0.6478
0620	2.52				2.52	54.0	0.6574	54.0		0.6574
0630	2.60				2.60	54.0	0.6601	54.0		0.6601
0645	2.61				2.61	60.0	0.6624	60.0		0.6624
0650	2.68				2.68	68.0	0.6638	68.0		0.6638
0655	2.88				2.88	75.0	0.6653	75.0		0.6653
0700	3.14				3.14	94.0	0.6671	94.0		0.6671
0705	3.46				3.46	183.0	0.6708	183.0		0.6708
0710	3.79				3.79	369.0	0.6761	369.0		0.6761
0715	3.90				3.90	622.0	0.6965	622.0		0.6965

NOTE: RAIN GAGE 2-SHL INOPERATIVE FOR THIS STORM.

STORM RAINFALL AND RUNOFF RECORD									
SMUAL CREEK AT NORTHWEST PARK, AUSTIN, TEXAS									
SUMM OF MAY 13, 1982									
DATE & TIME	ISHL	GAGE	NUMBER	PRECIP.	ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	1982 WATER YEAR	ACCUM. RUNOFF	IN.
MAY 13									
0725	4.35			4.35	1070.0	0.7385			
0735	4.72			4.72	1630.0	0.7874			
0740	4.82			4.82	1780.0	0.8226			
0745	4.86			4.86	2160.0	0.8868			
0755	4.95			4.95	2720.0	0.9676			
0800	5.00			5.00	2930.0	1.0256			
0805	5.05			5.05	2880.0	1.0827			
0810	5.10			5.10	2720.0	1.1365			
0815	5.16			5.16	2500.0	1.1860			
0820	5.19			5.19	2410.0	1.2338			
0825	5.22			5.22	2170.0	1.2982			
0835	5.26			5.26	1880.0	1.3727			
0845	5.30			5.30	1660.0	1.5042			
0915	5.40			5.40	1250.0	1.6651			
0950	5.45			5.45	937.0	1.8414			
1050	5.46			5.46	486.0	1.9284			
1140	5.48			5.48	354.0	2.0058			
1500	5.46			5.46	119.0	2.1650			
1800	5.47			5.47	68.0	2.2150			
2100	5.47			5.47	38.0	2.2431			
2400	5.47			5.47	26.0	2.2648			
MAY 14									
0000	5.47			5.47	26.0	2.2648			
0800	5.47			5.47	14.0	2.3037			
1600	5.47			5.47	8.5	2.3207			
2400	5.47			5.47	7.4	2.3330			
MAY 15									
0000	5.47			5.47	7.4	2.3330			
1200	5.47			5.47	5.5	2.3539			
2400	5.47			5.47	4.5	2.3603			

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

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.--6.97 mi² (revised).

PERIOD OF RECORD.--April 1975 to September 1982 (discontinued).

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

REMARKS.--Records fair. No storms were analyzed for this station for the 1982 water year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft³/s May 24, 1981 (gage height, 18.69 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,860 ft³/s May 13 (gage height, 11.50 ft).

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.--12.3 mi² (31.9 km²), revised.

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 latest report, "Hydrologic Data for Urban Studies in the Austin, Texas Metropolitan Area, 1981." Two recording rain gages are located in the watershed above this site.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s (453 m³/s) May 24, 1981, gage height, 23.22 ft (7.077 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,310 ft³/s (207 m³/s) May 13, gage height, 12.70 ft (3.871 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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS./PER 1.0 ML)
APR 22...	1145	661	117	8.0	11.0	50	460	11.2	101	6.7	50000 290000

DATE	TIME	HARDNESS (MG/L AS CAC03)	HARDNESS, NONCARBONATE (MG/L CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD AS CAC03	SULFATE DIS-SOLVED (MG/L AS S04)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
APR 22...	55	19	20	1.3	2.0	.1	2.1	36	18	2.9	.2	2.8	

DATE	TIME	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLATILE, SUS-PENDED (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)
APR 22...	71	304	36	.43	.040	.47	.140	1.2	1.30	.440	18	

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 22...	1145	2	18	<3	<10	1	66

DATE	TIME	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	SILICON, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR 22...	3	<3	<.1	<1	<1	<1	<12

COLORADO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
APR 22...	1145	<.10	<.10	.10	<.10	<.10	<2.0	.6
DATE		PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
APR 22...		<.1	<.10	<2.0	<2.0	.10	<.10	<.1

STA. NO. 06150600		STORM RAINFALL AND RUNOFF RECORD				1982 WATER YEAR	
SMUAL CREEK AT 12TH. STREET, AUSTIN, TEXAS		STORM OF MAY 13, 1982				ACCUM.	
DATE & TIME	ISHL	GAGE	NUMBER	PRECIP.	DISCHARGE	IN	IN.
				IN.	CFS		
MAY 13							
0000	0.0			0.0		0.2	0.0000
0055	0.01			0.01		27.0	0.0017
0100	0.07			0.07		36.0	0.0027
0120	0.62			0.62		27.0	0.0036
0135	0.73			0.73		26.0	0.0043
0145	1.08			1.08		26.0	0.0050
0200	1.34			1.34		115.0	0.0060
0210	1.47			1.47		200.0	0.0112
0215	1.87			1.87		242.0	0.0137
0220	2.30			2.30		321.0	0.0188
0230	2.39			2.39		480.0	0.0314
0245	2.45			2.45		1210.0	0.0695
0300	2.46			2.46		2040.0	0.1337
0315	2.46			2.46		2740.0	0.2057
0325	2.46			2.46		2990.0	0.2527
0330	2.46			2.46		3110.0	0.2854
0335	2.46			2.46		2940.0	0.3317
0345	2.46			2.46		2600.0	0.3995
0400	2.46			2.46		1760.0	0.4554
0415	2.46			2.46		1190.0	0.4928
0430	2.46			2.46		886.0	0.5905
0500	2.49			2.49		360.0	0.6302
0615	2.52			2.52		358.0	0.6396
0625	2.58			2.58		345.0	0.6505
0645	2.61			2.61		318.0	0.6588
0650	2.68			2.68		319.0	0.6638
0700	3.14			3.14		322.0	0.6706
0710	3.79			3.79		357.0	0.6762
0715	3.90			3.90		374.0	0.6816
0725	4.35			4.35		664.0	0.6980
0730	4.52			4.52		849.0	0.7069
0735	4.72			4.72		1030.0	0.7177
0740	4.82			4.82		1220.0	0.7433
0745	4.86			4.86			
0800	5.00			5.00		2980.0	0.8372
0815	5.16			5.16		4570.0	0.9937
0830	5.24			5.24		6760.0	1.1712
0840	5.28			5.28		7130.0	1.2834
0845	5.30			5.30		7310.0	1.3602

NOTE: RAIN GAGE 2-SHL INOPERATIVE FOR THIS STORM.

SIA. NO. 06156800		STORM RAINFALL AND RUNOFF RECORD				1982 WATER YEAR	
SMUAL CREEK AT 12TH. STREET, AUSTIN, TEXAS		STORM OF MAY 13, 1982		ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. RUNOFF	
DATE & TIME	ISHL	GAGE	NUMBER	IN.	CFS	IN.	
MAY 13							
0850	5.32			5.32	7130.0	1.4725	
0900	5.34			5.34	6760.0	1.6459	
0915	5.40			5.40	5520.0	1.8237	
0930	5.45			5.45	4000.0	1.9497	
0945	5.45			5.45	2880.0	2.0404	
1000	5.45			5.45	2200.0	2.1097	
1015	5.45			5.45	1770.0	2.1655	
1030	5.46			5.46	1430.0	2.2105	
1045	5.46			5.46	1170.0	2.2474	
1100	5.46			5.46	996.0	2.2787	
1115	5.46			5.46	845.0	2.3053	
1130	5.46			5.46	714.0	2.3278	
1145	5.46			5.46	609.0	2.3470	
1200	5.46			5.46	539.0	2.3640	
1215	5.46			5.46	480.0	2.3942	
1300	5.46			5.46	360.0	2.4226	
1330	5.46			5.46	310.0	2.4567	
1445	5.46			5.46	240.0	2.4983	
1615	5.47			5.47	204.0	2.5369	
1745	5.47			5.47	202.0	2.5846	
2000	5.47			5.47	155.0	2.6456	
2400	5.47			5.47	96.0	2.6940	
MAY 14							
0000	5.47			5.47	96.0	2.6940	
0800	5.47			5.47	57.0	2.7756	
1600	5.47			5.47	42.0	2.8179	
2400	5.47			5.47	32.0	2.8541	

BOGGY CREEK DRAINAGE BASIN

The surface-water hydrologic data for the Boggy Creek drainage basin for the 1982 water year are given in the following pages:

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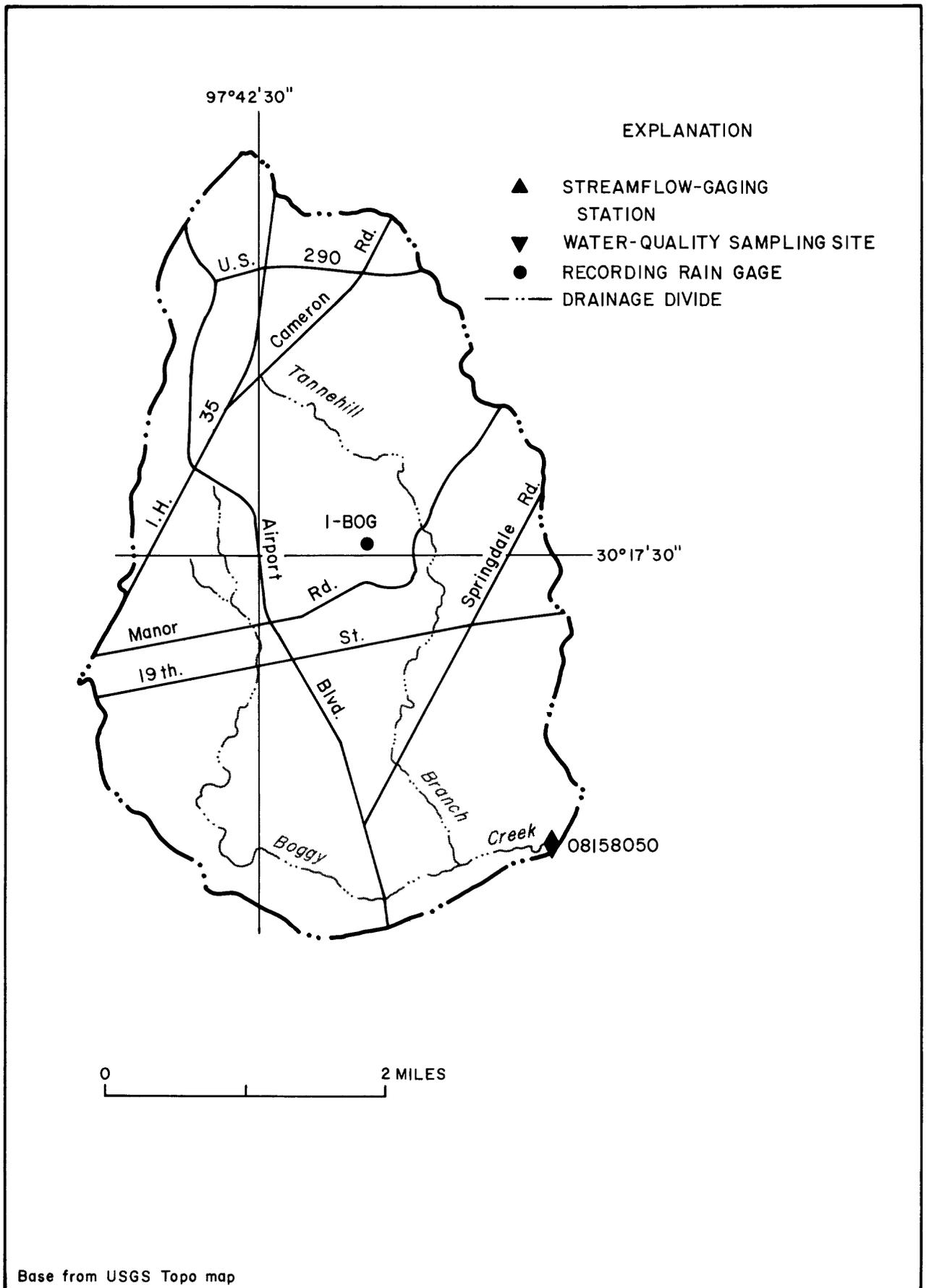


Figure 11.—Locations of surface-water data-collection sites in the Boggy Creek drainage basin

Table 7.--Storm rainfall-runoff data, 1982 water year, Boggy Creek drainage basin

Date of Storm	Duration (hours)	Rainfall (inches)		Runoff (inches)	Ratio of runoff to rainfall	Maximum discharge (ft ³ /s)		
		Total	Maximum increment					
May 13, 1982	8	3.32	0.52	0.91	1.32	0.73	0.22	971

Boggy Creek at U.S. Hwy. 183, Austin, Tex.
(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, 4.1 mi (6.6 km) east of the State Capitol Building in Austin, and 0.7 mi (1.1 km) upstream from mouth.

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. The station is part of a hydrologic research project to study the rainfall-runoff relationship for the Austin urban area.

AVERAGE DISCHARGE.--5 years (water years 1978-82), 6.66 ft³/s (0.189 m³/s), 6.90 in/yr (175 mm/yr), 7,830 acre-ft/yr (5.96 hm³/yr).

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, 971 ft³/s (27.5 m³/s) May 13 at 0315 hours, gage height, 9.20 ft (2.804 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 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.33	.07	.04	.04	.14	.08	.05	.46	.47	.04	.00
2	.00	.09	.04	.04	.05	.12	.07	.04	.64	.12	.00	.00
3	.01	.07	.06	.03	.04	.12	.10	.03	.80	.18	.00	4.1
4	.00	.05	.05	.03	.03	.12	.21	.01	.14	.23	.00	6.7
5	.00	.05	.05	.03	.03	.09	.29	.00	.64	.09	.35	.00
6	83	.05	.05	.03	.02	.10	.21	43	.77	.00	.08	.00
7	36	.04	.05	.02	.03	.14	.16	.08	.50	.10	.52	.00
8	1.0	25	.06	.02	.03	.13	.16	.04	.16	.21	.57	.00
9	23	.32	.09	.02	.03	.10	.99	.03	.21	.60	.95	.00
10	.29	.16	.07	.02	.02	.10	.34	.02	.27	.47	.63	.00
11	.14	.14	.08	.02	.03	.10	.09	.03	.23	.03	.43	.00
12	.09	.10	.05	2.8	.03	.10	.10	.39	56	.06	.44	.00
13	.42	.14	.06	.34	.03	.10	.13	239	.62	.06	.15	3.5
14	.17	.11	.10	.34	.03	.11	.11	16	.24	.08	.45	3.2
15	.06	.10	.09	.21	.04	.11	.12	9.8	.49	.51	.14	.00
16	.05	.10	.07	.15	.03	.11	.14	7.5	21	.47	.06	.00
17	.04	.09	.05	.13	.03	.13	.18	23	.28	.65	.00	.00
18	1.9	.11	.05	.08	.03	.15	.11	8.8	.32	.44	.00	.00
19	.05	.11	.05	.08	.03	.15	.11	6.9	.16	.00	.34	.00
20	.04	.11	.06	.09	.13	.21	30	6.9	.09	.05	.51	28
21	.11	.09	.07	.10	.04	.21	6.6	6.3	.09	.02	.62	.02
22	5.1	.09	.06	.09	.03	.67	205	5.0	.92	.17	.00	.00
23	.18	.10	.04	.05	.03	19	9.9	6.1	.44	.87	.16	.00
24	.04	.07	.04	.05	.03	.73	25	60	.21	.51	.27	.00
25	.03	.08	.03	.05	.04	.41	.40	1.7	1.8	.51	.00	.00
26	.02	.10	.03	.05	11	.33	.17	.71	.12	.60	.00	.00
27	.00	.12	.03	.05	.20	4.2	.10	.75	59	.00	.00	.00
28	.00	.15	.04	.05	.16	.57	.08	.70	.77	.18	.00	.00
29	.00	.12	.03	.07	---	.21	.07	.75	.47	.31	.00	.00
30	.02	.13	.03	1.8	---	.31	.06	.75	.86	.57	1.4	.00
31	28	---	.10	.10	---	.13	---	.34	---	.46	.94	---
TOTAL	179.76	28.32	1.75	6.98	12.26	29.20	281.08	444.72	148.70	9.02	9.05	45.52
MEAN	5.80	.94	.056	.23	.44	.94	9.37	14.3	4.96	.29	.29	1.52
MAX	83	25	.10	2.8	11	19	205	239	59	.87	1.4	28
MIN	.00	.04	.03	.02	.02	.09	.06	.00	.09	.00	.00	.00
CFSM	.44	.07	.004	.02	.03	.07	.72	1.09	.38	.02	.02	.12
IN.	.51	.08	.00	.02	.03	.08	.80	1.26	.42	.03	.03	.13
AC-FT	357	56	3.5	14	24	58	558	882	295	18	18	90

CAL YR 1981 TOTAL 3011.00 MEAN 8.25 MAX 360 MIN .00 CFSM .63 IN 8.55 AC-FT 5970
WTR YR 1982 TOTAL 1196.36 MEAN 3.28 MAX 239 MIN .00 CFSM .25 IN 3.40 AC-FT 2370

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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)
MAR												
23...	0945	260	292	--	--	50	2500	--	--	>46	--	--
23...	1000	301	297	--	--	30	2400	--	--	>46	--	--
23...	1015	284	304	--	--	40	2200	--	--	>47	--	--
23...	1030	193	322	--	--	--	--	--	--	>47	--	--
APR												
22...	0515	260	183	--	--	--	--	--	--	16	39000	180000
22...	0530	505	166	--	--	--	--	--	--	--	55000	220000
22...	0545	566	166	--	--	50	930	--	--	12	--	--
22...	0600	600	144	--	--	--	--	--	--	14	64000	340000
22...	0630	700	128	--	--	60	820	--	--	14	46000	160000
23...	0945	480	333	8.0	14.0	15	24	9.3	90	2.5	16000	24000
MAY												
13...	0315	783	146	--	--	--	--	--	--	17	130000	210000
13...	0415	653	143	--	--	--	--	--	--	12	190000	240000
24...	0730	258	255	--	--	--	--	--	--	18	210000	670000
24...	0745	527	287	--	--	--	--	--	--	--	250000	490000
24...	0800	674	231	7.9	--	--	--	--	--	35	290000	620000
24...	0815	628	243	--	--	40	600	--	--	18	120000	620000
24...	0830	544	222	--	--	--	--	--	--	13	200000	540000
24...	0845	396	210	--	--	60	760	--	--	11	160000	100000
JUN												
27...	0100	263	303	--	--	--	--	--	--	10	--	--
27...	0115	664	305	--	--	--	--	--	--	9.0	--	--
27...	0130	611	310	--	--	--	--	--	--	9.0	--	--
27...	0145	544	273	--	--	--	--	--	--	7.2	--	--
27...	0200	496	250	--	--	--	--	--	--	6.6	--	--
27...	0215	480	228	--	--	--	--	--	--	6.6	--	--
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)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
MAR												
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
23...	140	26	49	3.3	11	.4	3.5	110	29	14	.2	7.3
MAY												
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	96	17	34	2.8	11	.5	3.1	79	22	13	.3	7.4
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
27...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--

COLORADO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. SUS-PENDED (MG/L)	SOLIDS, VOLATILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR											
23...	--	4960	460	--	--	--	--	--	--	--	--
23...	--	5070	434	--	--	--	--	--	--	--	--
23...	--	5080	440	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
APR											
22...	--	--	--	.00	.690	.62	.380	3.2	3.60	.900	33
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	1480	152	.59	.070	.66	.180	2.1	2.30	1.60	27
22...	--	--	--	.57	.040	.61	.120	3.1	3.20	.680	--
22...	--	1710	156	.55	.030	.58	.140	3.2	3.30	1.10	31
23...	184	46	46	.91	.020	.93	.100	.70	.80	.140	6.2
MAY											
13...	--	--	--	.13	.260	.39	1.20	3.3	4.50	2.60	49
13...	--	--	--	.40	.100	.50	.530	1.9	2.40	.930	33
24...	--	--	--	.51	.020	.53	.080	7.5	7.60	1.70	51
24...	--	--	--	--	--	--	--	--	--	--	--
24...	141	--	--	.45	.020	.47	.080	8.4	8.50	2.20	52
24...	--	6550	510	.35	.020	.37	.080	3.7	3.80	1.50	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	1680	72	.14	.250	.39	.690	2.9	3.60	1.60	33
JUN											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--

DATE	TIME	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIIUM, 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							
22...	0515	9	<100	<1	<10	3	50
23...	0945	2	50	<3	<10	2	31
MAY							
24...	0730	3	<100	<1	10	3	70

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)
APR							
22...		<1	<10	<.1	<1	<1	<10
23...		2	<3	<.1	<1	<1	<12
MAY							
24...		<1	<10	<.1	1	<1	10

DATE	TIME	AME-TRYNE TOTAL (UG/L)	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
APR								
22...	0530	<.10	<.10	<.10	<.10	<.10	<2.0	8.4
23...	0945	<.10	<.10	<.10	<.10	<.10	<2.0	2.0
MAY								
24...	0745	<.10	<.10	<.10	<.10	<.10	<2.0	2.4

DATE	TIME	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
APR								
22...		<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
23...		<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
MAY								
24...		<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STA. NO.	DATE & TIME	18UG	STORM RAINFALL AND RUNOFF RECORD		1982 WATER YEAR	
			STORM OF MAY 13, 1982	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN	ACCUM. RUNOFF IN.
0000		0.0		0.0	0.1	0.0000
0030		0.0		0.0	0.1	0.0000
0045		0.12		0.12	0.1	0.0000
0145		0.26		0.26	0.1	0.0000
0200		0.65		0.65	0.1	0.0000
0215		1.17		1.17	0.6	0.0000
0230		1.40		1.40	7.5	0.0003
0245		1.58		1.58	231.0	0.0071
0300		1.61		1.61	815.0	0.0272
0310		1.61		1.61	919.0	0.0408
0315		1.61		1.61	971.0	0.0503
0320		1.61		1.61	915.0	0.0635
0330		1.62		1.62	803.0	0.0955
0400		1.63		1.63	689.0	0.1261
0415		1.65		1.65	656.0	0.1455
0430		1.65		1.65	660.0	0.1650
0445		1.65		1.65	628.0	0.1836
0500		1.65		1.65	544.0	0.1957
0515		1.65		1.65	426.0	0.2186
0545		1.65		1.65	273.0	0.2307
0600		1.65		1.65	215.0	0.2402
0630		1.79		1.79	164.0	0.2475
0645		1.80		1.80	159.0	0.2522
0700		1.84		1.84	135.0	0.2562
0715		1.88		1.88	133.0	0.2601
0730		2.17		2.17	151.0	0.2646
0745		2.41		2.41	213.0	0.2705
0800		2.69		2.69	412.0	0.2831
0815		2.90		2.90	715.0	0.3042
0830		3.15		3.15	711.0	0.3222
0845		3.20		3.20	704.0	0.3461
0900		3.24		3.24	660.0	0.3656
0915		3.28		3.28	625.0	0.3841
0930		3.31		3.31	604.0	0.4015
0945		3.31		3.31	557.0	0.4184
1000		3.32		3.32	550.0	0.4347
1015		3.32		3.32	540.0	0.4586
1045		3.32		3.32	520.0	0.4843
1100		3.32		3.32	520.0	0.5015

STORM RAINFALL AND RUNOFF RECORD									
1982 WATER YEAR									
STORM OF MAY 13, 1982									
STATION NO. 08158050									
BUGGY CREEK AT U.S. HWY. 183, AUSTIN, TEXAS									
DATE & TIME	1800	1900	2000	2100	2200	2300	2400	2500	2600
	IN.								
	PRECIP.								
	CFS								
	ACCUM.								
	DISCHARGE								
	IN.								
	IN.								
MAY 13									
1115	3.32							553.0	0.5178
1130	3.32							547.0	0.5421
1200	3.32							409.0	0.5602
1215	3.32							360.0	0.5709
1230	3.32							258.0	0.5757
1245	3.32							276.0	0.5879
1300	3.32							215.0	0.5942
1315	3.32							198.0	0.6001
1330	3.32							188.0	0.6084
1400	3.32							146.0	0.6145
1415	3.32							130.0	0.6187
1430	3.32							124.0	0.6224
1445	3.32							108.0	0.6336
1615	3.32							74.0	0.6434
1700	3.32							73.0	0.6531
1830	3.32							44.0	0.6633
2030	3.32							36.0	0.6750
2400	3.32							23.0	0.6838
MAY 14									
0000	3.32							23.0	0.7007
0600	3.32							16.0	0.7121
1200	3.32							14.0	0.7220
1800	3.32							10.0	0.7255
2400	3.32								

WALNUT CREEK, FERGUSON CREEK, AND LITTLE WALNUT CREEK DRAINAGE BASINS

The surface-water hydrologic data for the Walnut Creek, Ferguson Creek, and Little Walnut Creek drainage basins for the 1982 water year are given in the following pages:

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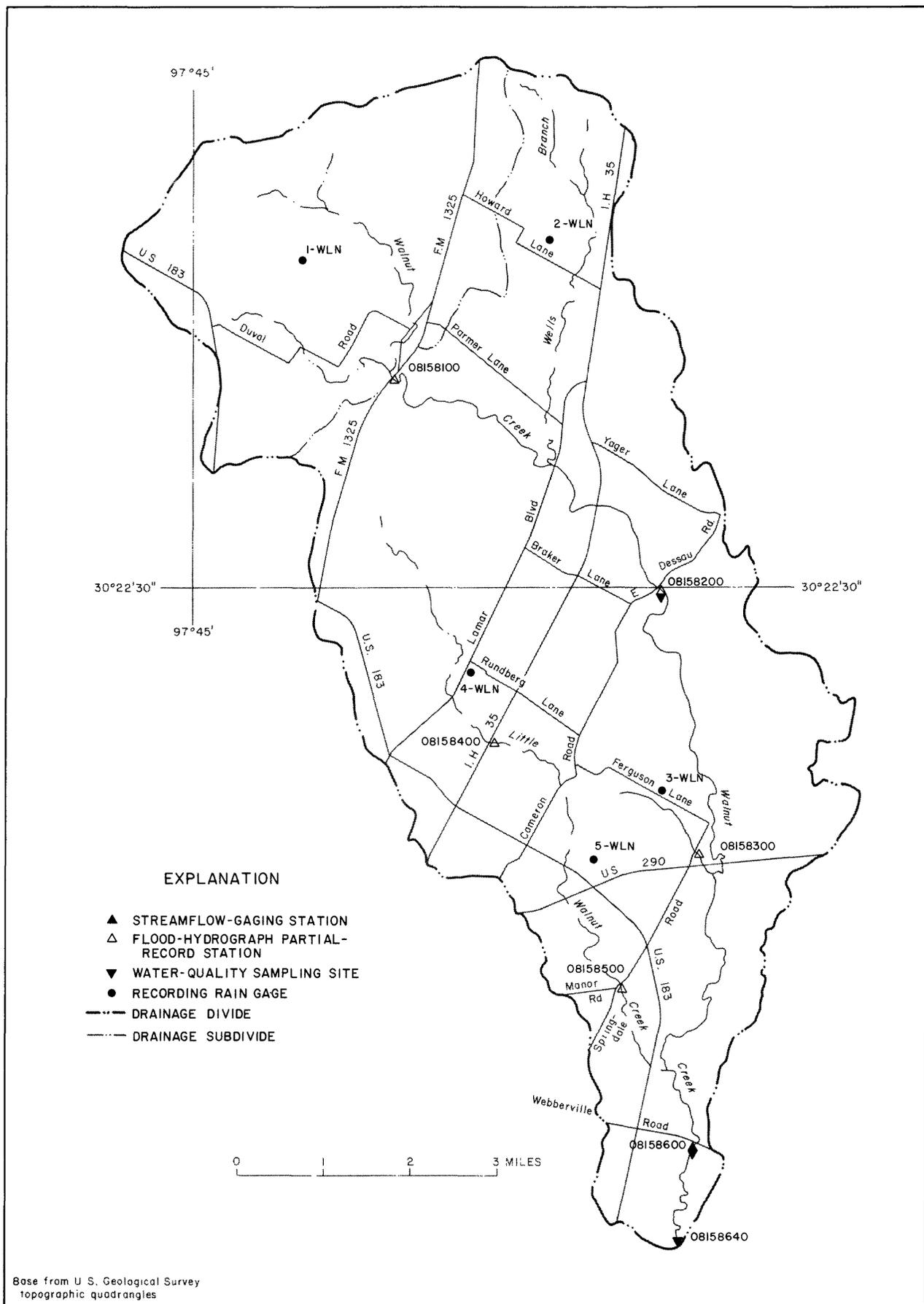
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Base from U.S. Geological Survey topographic quadrangles

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

Table 8.--Storm rainfall-runoff data, 1982 water year, Walnut Creek drainage basin

Date of Storm	Duration (hours)	Rainfall (inches)		Ratio of runoff to rainfall	Maximum discharge (ft ³ /s)
		Total	Maximum increment 15-minute 30-minute 60-minute		
Walnut Creek at Farm Road 1325 near Austin, Tex. (Drainage area.--12.6 mi ²)					
May 13, 1982	9	5.06	1.57 1.97 3.00	0.48	9,540

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

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 fair. No storms were analyzed for this station for the 1982 water year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s May 24, 1981 (gage height, 19.46 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,820 ft³/s May 13 (gage height, 13.91 ft).

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.--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, 1981". Two recording rain gages are located in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft³/s (612 m³/s) May 25, 1981, gage height, 26.20 ft (7.986 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,150 ft³/s (202 m³/s) May 13, gage height, 18.30 ft (5.578 m).

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)
------	------	----------------------------------	------------------------------	------------	---------------------	-------------------------------	-----------------	---------------------------	--	---------------------------------------	---

OCT 06...	1315	76	159	7.0	22.0	55	310	8.3	95	5.6	K180000	260000
APR 22...	1350	110	217	7.9	11.0	50	200	10.8	97	4.2	22000	70000
MAY 13...	0930	5660	124	7.8	17.0	90	1200	9.4	99	6.2	93000	110000

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)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
OCT 06...	66	0	23	2.0	6.0	.3	3.8	68	5.0	6.6	.2	5.3
APR 22...	88	15	32	1.9	5.2	.2	3.4	73	18	6.7	.2	5.0
MAY 13...	51	5	19	.9	1.4	.1	2.8	46	8.0	2.2	.2	6.4

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLATILE, SUS-PENDED (MG/L)	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 06...	93	400	46	.40	.060	.46	.180	1.0	1.20	.080	19
APR 22...	116	368	52	.68	.070	.75	.270	1.6	1.90	.500	12
MAY 13...	69	2180	62	.21	.110	.32	.200	3.2	3.40	2.10	46

COLORADO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CK)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 06...	1315	1	15	<1	0	2	55
APR 22...	1350	2	23	<3	<10	1	52

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 06...	1	6	.0	0	0	6
APR 22...	1	<3	<.1	<1	<1	<12

DATE	TIME	AME- TRYNE TOTAL (UG/L)	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
APR 22...	1350	<.10	<.10	.10	<.10	<.10	<2.0	1.1

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

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

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, 133 ft³/s May 13 (gage height, 4.88 ft).

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

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 September 1982 (discontinued). Periodic measurements only, November 1974 to May 1975. See "Remarks".

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

REMARKS.--Records fair. No storms were analyzed for this station for the 1982 water year. Gage moved to Georgian Drive.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,900 ft³/s May 24, 1981 (gage height, 12.00 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,530 ft³/s May 13 (gage height 7.65 ft).

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

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 December 1981 (discontinued).

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

REMARKS.--Records fair. No storms were analyzed for this station for the 1982 water year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,500 ft³/s May 25, 1981 (gage height, 19.60 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,020 ft³/s May 13 (gage height 12.43 ft), from surveyed high-water mark.

COLORADO RIVER BASIN

08158600 WALNUT CREEK AT WEBBERVILLE ROAD, AUSTIN, TX

LOCATION.--Lat 30°16'59", long 97°39'17", Travis County, Hydrologic Unit 1209U205, 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, 5.2 mi (8.4 km) east of the State Capitol Building in Austin, and 2.8 mi (4.5 km) upstream from mouth.

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.--16 years, 24.8 ft³/s (0.702 m³/s), 6.56 in/yr (167 mm/yr), 17,970 acre-ft/yr (22.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft³/s (405 m³/s) May 25, 1981, gage height, 27.24 ft (8.303 m); no flow at times in 1967 and 1971.
Maximum stage since at least 1891, that of May 25, 1981.

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		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)
Oct. 6	1030	1,800	51.0	12.26	3.737
May 13	1015	*9,540	270	25.10	7.650

Minimum daily discharge, no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	13	4.9	4.0	4.7	5.2	5.4	17	7.6	2.3	.15	.83
2	2.0	8.3	4.2	3.8	4.4	4.7	5.1	17	7.2	.91	.05	.75
3	2.1	6.9	4.7	3.8	4.3	4.7	5.1	16	6.8	.31	.04	.11
4	2.7	6.1	4.4	3.5	4.1	4.4	5.1	16	5.7	.07	.13	12
5	2.5	5.8	4.1	3.2	4.1	4.1	5.1	16	5.4	.02	.03	1.0
6	359	5.2	4.1	3.2	4.1	5.9	5.1	69	4.7	.00	.08	.60
7	74	4.7	4.1	3.2	4.1	5.2	5.1	14	4.4	.00	.09	.60
8	17	28	4.1	3.2	4.1	4.7	5.1	11	4.4	.02	.43	.60
9	24	11	4.1	3.2	4.1	4.4	6.1	9.8	4.1	.02	7.2	.60
10	11	7.4	3.8	3.2	3.8	4.4	7.6	8.6	3.8	.00	1.2	.60
11	9.1	6.7	3.8	3.2	3.8	6.6	6.1	8.8	3.5	.00	.57	.60
12	8.3	6.4	3.8	13	3.8	8.3	5.4	12	51	.00	.13	.60
13	14	6.0	3.8	7.2	3.8	8.2	5.0	3200	8.7	.01	.04	7.0
14	10	5.7	3.8	5.6	3.8	8.3	4.7	113	6.8	.02	.04	4.7
15	7.7	5.7	3.8	5.2	3.8	10	4.7	55	5.7	.02	.04	.32
16	6.7	5.1	3.5	4.3	3.6	9.2	4.7	43	27	.04	.04	.15
17	6.1	5.1	3.5	3.8	3.5	9.0	4.7	44	8.7	.02	.04	.15
18	7.2	5.1	3.5	3.8	3.5	8.7	4.1	34	7.2	.03	.04	.15
19	5.4	5.0	3.5	3.8	3.5	8.7	9.3	30	6.4	.02	.07	3.7
20	5.4	4.7	3.5	4.3	13	8.7	61	28	5.7	.02	.09	61
21	6.1	4.7	3.2	4.8	6.1	8.7	22	25	5.1	.04	.10	1.6
22	16	4.7	3.2	4.1	4.6	9.6	351	25	6.3	.07	.15	.73
23	10	4.4	3.2	4.0	4.3	26	36	23	6.4	14	.35	.32
24	7.4	4.4	3.2	3.8	4.1	9.1	66	97	5.1	4.4	.40	.32
25	6.5	4.4	3.2	3.8	4.1	6.0	28	21	9.9	.07	.07	.27
26	5.7	4.4	3.2	3.4	29	4.9	22	15	5.8	.13	.04	.34
27	5.2	4.4	3.0	3.2	8.5	17	21	14	99	.07	.07	.62
28	4.7	4.4	3.0	3.2	5.9	10	20	12	3.6	.04	.07	.13
29	4.7	4.1	3.0	3.2	---	7.2	18	11	1.6	.04	.07	.07
30	6.1	4.5	4.0	10	---	9.4	18	10	5.5	.05	5.9	.07
31	26	---	5.7	6.1	---	6.6	---	8.4	---	.12	3.8	---
TOTAL	674.7	196.3	116.9	138.1	154.5	247.9	766.5	4023.6	333.1	22.86	21.52	111.42
MEAN	21.8	6.54	3.77	4.45	5.52	8.00	25.6	130	11.1	.74	.69	3.71
MAX	359	28	5.7	13	29	26	351	3200	99	14	7.2	61
MIN	2.0	4.1	3.0	3.2	3.5	4.1	4.1	8.4	1.6	.00	.03	.07
CFSM	.43	.13	.07	.09	.11	.16	.50	2.53	.22	.01	.01	.07
IN.	.49	.14	.08	.10	.11	.18	.56	2.92	.24	.02	.02	.08
AC-FT	1340	389	232	274	306	492	1520	7980	661	45	43	221

CAL YR 1981	TOTAL	23568.80	MEAN 64.6	MAX 4100	MIN 2.0	CFSM 1.26	IN 17.09	AC-FT 46750
WTR YR 1982	TOTAL	6807.40	MEAN 18.7	MAX 3200	MIN .00	CFSM .37	IN 4.94	AC-FT 13500

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 September 1982 (discontinued). Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DEMAND, (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)
OCT 06...	1130	1300	167	7.2	22.0	40	1800	8.4	97	11
APR 22...	1515	334	251	7.9	11.5	30	780	11.6	105	5.3
MAY 13...	1040	9100	173	7.9	17.0	90	2000	9.6	101	4.9
JUL 27...	0925	.07	402	7.9	27.5	<1	1.2	4.8	62	.3

DATE	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 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)
OCT 06...	120000	220000	72	17	26	1.7	5.5	.3	2.8
APR 22...	42000	90000	100	32	37	2.7	7.2	.3	3.5
MAY 13...	52000	190000	76	23	27	2.0	3.3	.2	3.1
JUL 27...	420	360	170	29	60	4.6	16	.5	2.5

DATE	ALKALINITY FIELD AS CaCO3 (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
OCT 06...	55	30	5.8	.2	4.2	109	2230	235	.30
APR 22...	72	44	8.5	.3	4.4	151	1320	128	.83
MAY 13...	53	25	3.2	.3	6.6	102	3590	61	.49
JUL 27...	140	37	23	.4	6.8	235	9	<2	--

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 (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 06...	.080	.38	.200	.80	1.00	.110	39	--	--
APR 22...	.030	.86	.180	1.7	1.90	.870	23	--	--
MAY 13...	.040	.53	.140	4.5	4.60	2.00	41	--	--
JUL 27...	<.020	.10	.070	.83	.90	.110	4.5	16	.00

COLORADO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 06...	1130	1	35	<1	0	2	21
APR 22...	1515	2	28	<3	<10	1	35
JUL 27...	0925	1	56	<1	<10	1	10

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 06...	1	2	.0	0	0	<3
APR 22...	2	<3	<.1	<1	<1	<12
JUL 27...	1	15	<.1	<1	<1	4

DATE	TIME	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
APR 22...	1515	<.10	<.10	.20	<.10	<.10	<2.0	1.0
JUL 27...	0925	<.10	<.10	<.10	<.10	<.10	<2.0	.6

DATE	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
APR 22...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
JUL 27...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STATE NO. 06158600 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

WALNUT CREEK AT WEBBERVILLE ROAD, AUSTIN, TEXAS STORM OF MAY 13, 1982

DATE & TIME	1MLN	2MLN	3MLN	4MLN	5MLN	WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13								
0000	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0000
0010	0.01	0.01	0.0	0.0	0.01	0.01	11.0	0.0002
0020	0.02	0.02	0.01	0.0	0.02	0.01	11.0	0.0003
0100	0.03	0.02	0.11	0.05	0.17	0.07	11.0	0.0004
0110	0.24	0.31	0.12	0.10	0.20	0.20	11.0	0.0004
0115	0.48	0.34	0.12	0.10	0.20	0.26	11.0	0.0005
0135	1.04	0.38	0.24	0.17	0.27	0.46	11.0	0.0006
0155	1.98	0.60	0.31	0.30	0.27	0.78	11.0	0.0007
0210	3.10	0.97	0.62	0.70	0.59	1.37	12.0	0.0007
0215	3.20	1.16	0.81	1.10	1.28	1.58	12.0	0.0008
0220	3.62	1.45	1.04	1.60	1.98	1.98	15.0	0.0008
0225	3.65	2.00	1.41	2.27	1.75	2.26	17.0	0.0005
0245	3.70	2.15	1.63	2.48	1.93	2.42	33.0	0.0012
0300	3.70	2.17	1.68	2.45	1.96	2.44	242.0	0.0030
0315	3.70	2.18	1.68	2.45	1.97	2.44	987.0	0.0105
0330	3.70	2.18	1.68	2.45	1.97	2.44	2140.0	0.0266
0345	3.70	2.18	1.69	2.45	1.97	2.45	3150.0	0.0504
0400	3.71	2.19	1.69	2.45	1.97	2.45	3920.0	0.0800
0415	3.71	2.19	1.69	2.45	1.97	2.45	4120.0	0.1111
0430	3.71	2.19	1.69	2.45	1.97	2.45	4160.0	0.1583
0500	3.71	2.20	1.70	2.45	1.97	2.46	3730.0	0.2146
0530	3.74	2.22	1.71	2.53	2.00	2.48	3220.0	0.2511
0545	3.74	2.22	1.71	2.53	2.00	2.48	3020.0	0.2739
0600	3.74	2.23	1.71	2.53	2.00	2.48	2940.0	0.2961
0615	3.84	2.28	1.73	2.57	2.02	2.53	2910.0	0.3107
0620	3.84	2.27	1.83	2.55	2.13	2.57	2910.0	0.3217
0630	4.02	2.31	1.83	2.63	2.22	2.64	2910.0	0.3400
0645	4.32	2.47	1.95	2.64	2.23	2.79	2910.0	0.3583
0655	4.32	2.77	2.01	2.68	2.27	2.88	2880.0	0.3765
0710	4.87	3.73	2.33	3.16	2.53	3.41	2820.0	0.3907
0715	4.98	3.82	2.43	3.34	2.60	3.51	2750.0	0.3977
0720	5.15	4.00	2.52	3.50	2.68	3.65	2760.0	0.4021
0730	5.50	4.21	2.63	4.03	3.24	4.01	2690.0	0.4250
0745	5.76	4.46	2.83	4.46	3.50	4.22	2540.0	0.4442
0800	5.85	4.58	3.52	4.05	3.84	4.53	2480.0	0.4630
0815	5.95	4.68	3.73	4.05	4.07	4.67	3020.0	0.4858
0830	6.08	4.82	3.92	5.01	4.21	4.84	4450.0	0.5197
0845	6.13	4.87	3.98	5.08	4.28	4.90	6220.0	0.5666
0900	6.18	4.92	4.02	5.11	4.31	4.94	7540.0	0.6236

STA. NO. 08158600 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

WALNUT CREEK AT WEBBERVILLE ROAD, AUSTIN, TEXAS

DATE & TIME	STORM UP MAY 13, 1982						ACCUM. WEATHERED PRECIP.	ACCUM. PRECIP.	DISCHARGE IN	CHANGE IN	MUNOFF
	1MLN	2MLN	3MLN	4MLN	5MLN	6MLN					
MAY 13											
0915	0.22	4.98	4.04	5.18	4.35		4.98	8220.0	0.7167		
0945	0.25	5.01	4.07	5.21	4.36		5.02	5250.0	0.8215		
1000	0.25	5.01	4.08	5.21	4.38		5.02	9440.0	0.8812		
1010	0.25	5.01	4.08	5.21	4.38		5.02	5520.0	0.9171		
1015	0.25	5.02	4.08	5.21	4.38		5.02	5540.0	0.9411		
1020	0.25	5.02	4.08	5.21	4.38		5.02	5470.0	1.0842		
1115	0.25	5.03	4.08	5.21	4.38		5.02	8650.0	1.2373		
1130	0.25	5.04	4.08	5.21	4.38		5.03	8550.0	1.3987		
1230	0.25	5.05	4.08	5.21	4.39		5.03	8250.0	1.5552		
1245	0.25	5.05	4.08	5.21	4.39		5.03	8270.0	1.6177		
1300	0.26	5.05	4.09	5.22	4.39		5.04	8280.0	1.6802		
1315	0.26	5.05	4.09	5.22	4.39		5.04	8340.0	1.7432		
1330	0.26	5.05	4.09	5.22	4.39		5.04	8340.0	1.8061		
1345	0.26	5.05	4.09	5.22	4.39		5.04	8190.0	1.8680		
1400	0.26	5.05	4.09	5.22	4.39		5.04	7950.0	1.9280		
1415	0.26	5.05	4.09	5.22	4.39		5.04	7410.0	2.0120		
1445	0.26	5.15	4.09	5.22	4.40		5.04	5790.0	2.1213		
1530	0.26	5.15	4.09	5.23	4.40		5.06	2810.0	2.1637		
1545	0.26	5.15	4.09	5.23	4.40		5.06	2190.0	2.1803		
1600	0.26	5.15	4.09	5.23	4.40		5.06	1760.0	2.1935		
1615	0.26	5.15	4.09	5.23	4.40		5.06	1500.0	2.2045		
1630	0.26	5.15	4.09	5.23	4.40		5.06	1300.0	2.2147		
1645	0.26	5.15	4.09	5.23	4.40		5.06	1150.0	2.2234		
1700	0.26	5.15	4.09	5.23	4.40		5.06	1010.0	2.2386		
1745	0.26	5.15	4.09	5.23	4.40		5.06	745.0	2.2555		
1830	0.26	5.15	4.09	5.23	4.40		5.06	572.0	2.2641		
1845	0.26	5.15	4.09	5.23	4.40		5.06	545.0	2.2724		
1930	0.26	5.15	4.09	5.23	4.40		5.06	438.0	2.2807		
2000	0.26	5.15	4.09	5.23	4.40		5.06	395.0	2.2852		
2015	0.26	5.15	4.09	5.23	4.40		5.06	402.0	2.2943		
2130	0.26	5.15	4.09	5.23	4.40		5.06	308.0	2.3024		
2200	0.26	5.15	4.09	5.23	4.40		5.06	297.0	2.3065		
2230	0.26	5.15	4.09	5.23	4.40		5.06	272.0	2.3151		
2400	0.26	5.15	4.09	5.23	4.40		5.06	219.0	2.3333		
MAY 14											
0000	0.26	5.15	4.09	5.23	4.40		5.06	219.0	2.3333		
0800	0.26	5.15	4.09	5.23	4.40		5.06	119.0	2.3752		
1600	0.26	5.15	4.09	5.23	4.40		5.06	89.0	2.3968		
2400	0.26	5.15	4.09	5.23	4.40		5.06	65.0	2.4046		

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 (138.1 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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	
APR 23...	0905	150	517	7.5	16.5	20	72	9.1	94	1.8	73	220
JUL 26...	1335	177	711	7.8	30.0	15	2.1	6.5	88	5.2	150	440

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)	ALKALINITY FIELD AS (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
APR 23...	170	50	57	6.6	32	1.1	5.0	120	65	41	1.1	8.1
JUL 26...	140	23	34	14	74	2.9	10	120	67	82	1.6	13

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 (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 23...	288	82	13	--	<.020	4.4	.330	1.8	2.10	4.20	7.6
JUL 26...	368	10	2	5.5	1.00	6.5	5.50	2.2	7.70	8.60	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)
APR 23...	0905	2	37	<3	<10	3	15
JUL 26...	1335	2	15	<1	<10	6	12

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 23...	<1	4	<.1	1	<1	<12
JUL 26...	<1	31	<.1	<1	<1	16

COLORADO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
APR 23...	0905	<.10	<.10	.10	<.10	<.10	--	1.1
JUL 26...	1335	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

DATE	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
APR 23...	<.1	<.10	--	--	<.10	<.10	<.1
JUL 26...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

ONION CREEK BASIN

The surface-water hydrologic data for Onion Creek for the 1982 water year are given in the following pages:

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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 hydrologic research project to study rainfall-runoff relationship in the Austin urban-rural areas. There is a recording rain gage located in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,010 ft³/s (227 m³/s) June 11, 1981, gage height, 15.24 ft (4.645 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. Flood of June 11, 1981, peaked at a depth of 5 ft (1.5 m) over this dam.

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

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Oct. 6	1300	6,920	196	13.88	4.231
May 13	1145	*7,640	216	14.74	4.493

Minimum daily discharge, 0.48 ft³/s (0.014 m³/s) Sept. 28, 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	51	18	11	8.3	6.5	5.2	14	38	12	1.0	2.2
2	1.8	32	17	11	8.5	6.5	5.2	13	36	12	1.1	2.1
3	1.8	28	16	11	8.6	6.1	5.2	13	34	12	.92	4.1
4	1.8	27	15	9.8	8.6	6.1	4.8	12	32	12	1.0	4.1
5	1.8	26	15	9.8	8.6	6.1	4.8	11	30	11	.75	2.4
6	1150	25	16	10	8.0	6.1	3.8	16	27	11	.75	1.9
7	139	24	15	9.7	7.9	6.2	3.4	17	26	11	.75	1.5
8	93	26	15	9.1	7.5	4.8	4.0	15	24	10	1.0	1.6
9	65	38	15	8.6	7.4	4.8	3.4	13	23	10	.92	1.6
10	53	28	15	8.2	7.0	4.8	3.3	13	20	10	1.2	1.5
11	45	27	15	7.8	7.0	4.8	2.6	13	18	9.7	1.5	1.3
12	40	26	15	9.8	7.0	4.8	2.2	14	22	8.9	1.8	1.3
13	40	26	14	9.8	7.0	4.8	2.2	1960	25	8.3	1.9	.99
14	43	27	14	9.8	7.0	4.8	1.7	201	21	7.8	1.6	1.2
15	36	25	13	9.8	7.0	4.8	2.0	133	19	7.2	1.6	1.4
16	30	25	14	9.8	7.0	4.8	2.2	115	21	6.4	1.5	1.6
17	27	24	13	9.4	7.0	3.8	2.0	117	21	5.6	1.0	1.5
18	23	24	13	9.4	7.0	3.8	1.4	109	17	5.0	.75	1.2
19	20	23	12	9.4	6.5	3.8	2.0	102	15	4.5	.71	1.2
20	21	22	12	9.4	6.5	3.8	6.2	96	14	4.3	.72	3.2
21	21	21	12	9.4	6.6	3.8	4.3	85	13	3.4	.70	2.8
22	22	21	12	9.4	6.5	3.2	8.4	78	16	2.8	1.1	1.1
23	26	21	12	9.3	6.5	3.2	14	72	19	2.1	1.6	1.1
24	26	20	12	9.0	6.3	3.2	20	74	18	3.6	1.3	1.1
25	22	20	11	9.0	6.1	3.2	23	71	15	2.1	1.2	1.0
26	20	20	11	9.0	7.2	3.2	19	62	15	2.0	1.7	.69
27	18	20	11	9.0	6.5	5.4	17	58	16	1.8	1.6	.58
28	17	19	11	8.6	6.5	6.1	16	55	14	1.2	1.6	.48
29	16	19	11	8.6	---	5.6	15	51	12	1.3	1.7	.48
30	18	19	11	8.6	---	5.6	15	46	13	1.0	2.1	.50
31	27	---	11	8.3	---	5.2	---	42	---	1.0	2.2	---
TOTAL	2067.0	754	417	290.8	201.6	149.7	219.3	3691	634	201.0	39.27	47.72
MEAN	66.7	25.1	13.5	9.38	7.20	4.83	7.31	119	21.1	6.48	1.27	1.59
MAX	1150	51	18	11	8.6	6.5	23	1960	38	12	2.2	4.1
MIN	1.8	19	11	7.8	6.1	3.2	1.4	11	12	1.0	.70	.48
CFSM	.54	.20	.11	.08	.06	.04	.06	.96	.17	.05	.01	.01
IN.	.62	.23	.13	.09	.06	.04	.07	1.11	.19	.06	.01	.01
AC-FT	4100	1500	827	577	400	297	435	7320	1260	399	78	95

CAL YR 1981 TOTAL 27585.60 MEAN 75.6 MAX 1990 MIN 1.6 CFSM .61 IN 8.28 AC-FT 54720
WTR YR 1982 TOTAL 8712.39 MEAN 23.9 MAX 1960 MIN .48 CFSM .19 IN 2.61 AC-FT 17280

COLORADO RIVER BASIN

08158700 ONION CREEK NEAR DRIFTWOOD, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	S: E-CIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	
APR 22...	1335	12	439	8.4	15.5	5	10	9.3	95	1.2	800	3400
JUL 26...	0946	1.8	411	8.0	28.0	<1	.70	6.4	84	.4	43	170

DATE	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	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
APR 22...	210	27	58	15	16	.5	1.2	180	38	11	.3
JUL 26...	190	12	52	15	8.0	.3	1.4	180	27	10	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, DIS-SOLVED (MG/L)	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 22...	7.8	256	4	<1	<.020	.14	.140	.35	.49	.020	1.8
JUL 26...	11	233	4	<2	<.020	<.10	.070	.73	.80	.020	1.7

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 22...	1335	1	25	<3	<10	1	<9
JUL 26...	0946	1	26	<1	<10	<1	<3

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HC)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR 22...	<1	<3	<.1	1	<1	<12
JUL 26...	<1	<1	<.1	<1	<1	3

DATE	TIME	AMETRYNE TOTAL (UG/L)	ATRAZINE TOTAL (UG/L)	ATRAZINE TOTAL (UG/L)	CYANAZINE TOTAL (UG/L)	CYPRAZINE TOTAL (UG/L)	METHOMYL TOTAL (UG/L)	PROMETONE TOTAL (UG/L)
APR 22...	1335	<.10	<.10	<.10	<.10	<.10	<2.0	<.1
JUL 26...	0946	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

DATE	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETONE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)
APR 22...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
JUL 26...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,400 ft³/s (493 m³/s) June 13, 1981, gage height, 17.59 ft (5.361 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.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
Oct. 6	1630	7,490	212	11.81	3.600
May 13	1230	*9,390	266	13.13	4.002

Minimum discharge, no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	1.3	1.1	.00	.00	1.2	.00	.00	.00
2	.00	.00	.00	.00	1.3	1.2	.00	.00	.63	.00	.00	.00
3	.00	.00	.00	.00	1.3	1.2	.00	.00	.12	.00	.00	.00
4	.00	.00	.00	.00	1.3	1.2	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	1.3	1.2	.00	.00	.00	.00	.00	.00
6	1080	.00	.00	.00	1.3	1.1	.00	.00	.00	.00	.00	.00
7	308	.00	.00	.00	1.2	1.0	.00	.00	.00	.00	.00	.00
8	63	.00	.00	.00	1.2	1.1	.00	.00	.00	.00	.00	.00
9	11	.00	.00	.00	1.2	1.1	.00	.00	.00	.00	.00	.00
10	3.6	.00	.00	.00	1.2	1.1	.00	.00	.00	.00	.00	.00
11	1.5	.00	.00	.08	1.2	1.1	.00	.00	.00	.00	.00	.00
12	.60	.00	.00	1.4	1.2	1.1	.00	.00	.00	.00	.00	.00
13	.37	.00	.00	2.0	1.2	.86	.00	3640	.00	.00	.00	.00
14	.33	.00	.00	2.2	1.1	.52	.00	542	.00	.00	.00	.00
15	.28	.00	.00	2.4	1.1	.26	.00	260	.00	.00	.00	.00
16	.14	.00	.00	2.4	1.1	.02	.00	156	.00	.00	.00	.00
17	.04	.00	.00	2.2	1.1	.00	.00	125	.00	.00	.00	.00
18	.00	.00	.00	2.3	1.0	.00	.00	104	.00	.00	.00	.00
19	.00	.00	.00	2.3	.54	.00	.00	65	.00	.00	.00	.00
20	.00	.00	.00	2.3	.27	.00	.00	43	.00	.00	.00	.00
21	.00	.00	.00	2.3	.55	.00	.00	27	.00	.00	.00	.00
22	.00	.00	.00	2.2	.48	.00	.00	16	.00	.00	.00	.00
23	.00	.00	.00	2.0	.16	.00	.00	13	.00	.00	.00	.00
24	.00	.00	.00	1.8	.01	.00	.50	14	.00	.00	.00	.00
25	.00	.00	.00	1.6	.00	.00	.75	15	.00	.00	.00	.00
26	.00	.00	.00	1.3	.91	.00	.55	10	.00	.00	.00	.00
27	.00	.00	.00	1.2	1.1	.00	.17	7.1	.87	.00	.00	.00
28	.00	.00	.00	1.1	1.1	.00	.00	5.3	.17	.00	.00	.00
29	.00	.00	.00	1.0	---	.00	.00	4.6	.00	.00	.00	.00
30	.00	.00	.00	1.2	---	.00	.00	3.4	.00	.00	.00	.00
31	.00	---	.00	1.3	---	.00	---	2.0	---	.00	.00	---
TOTAL	1468.86	.00	.00	36.58	26.72	15.16	1.97	5052.40	2.99	.00	.00	.00
MEAN	47.4	.000	.000	1.18	.95	.49	.066	163	.10	.000	.000	.000
MAX	1080	.00	.00	2.4	1.3	1.2	.75	3640	1.2	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.29	.000	.000	.007	.006	.003	.000	.98	.001	.000	.000	.000
IN.	.33	.00	.00	.01	.01	.00	.00	1.13	.00	.00	.00	.00
AC-FT	2910	.00	.00	73	53	30	3.9	10020	5.9	.00	.00	.00

CAL YR 1981 TOTAL 36836.75 MEAN 101 MAX 5400 MIN .00 CFSM .61 IN 8.25 AC-FT 73070
WTR YR 1982 TOTAL 6604.68 MEAN 18.1 MAX 3640 MIN .00 CFSM .11 IN 1.48 AC-FT 13100

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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEC C)	COLOR (PLAT-INUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
06...	0800	388	178	7.9	22.0	--	--	--	--	--	--	--
06...	1530	1600	368	8.2	24.5	20	720	--	--	10	54000	70000
06...	1600	6980	209	8.0	23.5	75	1200	--	--	12	46000	74000
07...	0800	352	214	7.9	22.0	55	290	8.1	93	3.6	36000	42000
MAY												
13...	1100	8320	115	8.1	18.5	90	150	8.8	98	4.2	35000	84000

DATE	HARDNESS (MC/L AS CAC03)	HARDNESS, NONCARBONATE (MG/L CAC03)	CALCIUM DISSOLVED (MC/L AS CA)	MAGNESIUM, DISSOLVED (MC/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CAC03)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SI02)
OCT												
06...	88	4	27	4.9	2.1	.1	2.3	84	5.0	3.7	.1	6.7
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	97	4	29	5.9	2.7	.1	2.8	93	5.0	5.1	.1	6.4
07...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
13...	45	4	15	1.9	1.3	.1	3.1	41	7.0	2.4	.1	8.8

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MC/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT											
06...	94	--	--	--	--	--	--	--	--	--	--
06...	--	1150	212	.13	.070	.20	.190	6.5	6.70	.280	48
06...	104	1520	200	.12	.110	.23	.290	2.8	3.10	.250	77
07...	--	234	90	.24	.070	.31	.170	.78	.95	.070	12
MAY											
13...	64	235	57	.13	.040	.17	.160	2.2	2.40	.300	22

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)
OCT							
06...	0800	1	14	<1	0	2	12
06...	1530	1	21	<1	0	1	<10
06...	1600	1	15	<1	0	4	10
MAY							
13...	1100	1	9	<3	<10	1	190

DATE	LEAD, DISSOLVED (UG/L AS PE)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY, DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AC)	ZINC, DISSOLVED (UG/L AS ZN)
OCT						
06...	1	<1	.0	0	0	<3
06...	1	<1	.0	0	0	<3
06...	3	2	.0	0	0	<3
MAY						
13...	15	3	<.1	<1	<1	18

COLORADO RIVER BASIN

08158800 ONION CREEK AT BUDA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
OCT								
06...	0800	.00	.00	.00	.00	.00	.0	.0
06...	1530	.00	.00	.00	.00	.00	.0	.0
MAY								
13...	1100	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

DATE	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
OCT							
06...	.0	.00	.0	.00	.00	.00	.0
06...	.0	.00	.0	.00	.00	.00	.0
MAY							
13...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

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. There are eleven recording rain gages located in the watershed.

AVERAGE DISCHARGE.--11 years (water years 1925-29, 1977-82), 85.1 ft³/s (2.410 m³/s), 3.60 in/yr (91 mm/yr), 61,650 acre-ft/yr (76.0 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.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)
Oct. 6	2300	5,230	148	14.08	4.292
May 13	1730	*13,300	377	21.28	6.486

Minimum daily discharge, 0.01 ft³/s (0.0003 m³/s) Sept. 11-13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.79	70	9.1	6.3	7.9	7.0	7.2	8.2	19	9.6	1.4	.30		
2	.57	17	8.4	6.3	7.2	6.8	7.1	7.4	17	9.6	1.7	.30		
3	.57	13	7.3	6.3	7.0	6.4	5.8	6.7	15	8.6	1.4	.30		
4	.41	12	7.2	6.3	6.8	6.2	4.9	6.3	14	7.6	1.4	.57		
5	.41	11	7.2	6.3	6.8	5.8	4.9	5.8	13	6.8	.76	.76		
6	705	10	7.4	6.3	6.8	5.8	4.9	55	12	6.2	.57	.57		
7	811	9.4	9.1	6.3	6.8	5.8	4.9	16	11	5.8	.57	.57		
8	187	35	9.3	6.2	6.8	5.8	4.9	8.6	9.7	5.4	1.4	.30		
9	193	27	8.6	5.8	6.7	5.8	4.6	6.9	9.4	4.6	4.5	.14		
10	90	15	8.2	5.5	6.3	5.8	7.2	6.8	8.0	4.9	3.7	.04		
11	32	13	8.2	4.5	6.3	5.8	7.5	6.8	8.2	4.5	3.3	.01		
12	20	11	8.1	7.2	6.3	5.3	6.6	8.1	54	4.1	3.3	.01		
13	16	11	7.2	16	6.2	5.1	5.5	6510	19	3.7	2.6	.01		
14	19	9.9	6.8	8.2	5.8	5.3	5.0	1790	12	3.7	1.7	.05		
15	16	9.2	6.8	8.7	5.8	4.9	4.9	516	10	3.7	1.4	.09		
16	13	8.7	6.8	8.6	5.8	5.0	4.9	322	28	3.7	1.2	.14		
17	12	8.7	6.8	7.3	5.8	5.8	4.4	334	14	3.3	1.2	.14		
18	11	9.0	6.6	7.2	5.8	5.4	3.3	266	9.5	3.0	1.2	.14		
19	11	8.7	6.3	7.2	5.7	5.1	3.3	184	8.7	2.3	1.2	.05		
20	8.7	8.2	6.5	7.8	4.9	4.8	39	142	8.2	2.0	.76	.57		
21	8.7	8.2	7.2	8.4	5.2	4.5	22	115	7.6	1.7	.57	.41		
22	14	8.2	7.1	8.1	5.4	4.5	254	99	6.8	1.4	.41	.21		
23	37	8.2	6.3	7.2	5.4	27	137	82	44	1.2	.41	.30		
24	13	8.6	5.8	6.8	5.4	21	83	183	29	1.2	.41	.30		
25	11	9.2	5.8	6.3	5.4	9.0	44	116	14	1.4	.41	.30		
26	9.3	9.8	5.4	5.4	20	6.6	21	84	12	1.4	.30	.41		
27	8.2	8.7	5.4	5.6	12	10	14	62	430	1.4	.30	.41		
28	8.2	8.7	5.4	6.2	8.0	14	12	44	64	1.4	.30	.51		
29	8.2	8.8	5.4	6.8	---	9.1	9.2	36	20	1.4	.30	.99		
30	7.5	9.3	5.5	7.4	---	8.3	8.5	31	13	1.2	.30	1.4		
31	56	---	6.1	11	---	8.1	---	25	---	1.2	.30	---		
TOTAL	2328.55	404.5	217.3	223.5	194.3	235.8	745.5	11083.6	940.1	118.0	39.27	10.30		
MEAN	75.1	13.5	7.01	7.21	6.94	7.61	24.9	358	31.3	3.81	1.27	.34		
MAX	811	70	9.3	16	20	27	254	6510	430	9.6	4.5	1.4		
MIN	.41	8.2	5.4	4.5	4.9	4.5	3.3	5.8	6.8	1.2	.30	.01		
CFSM	.23	.04	.02	.02	.02	.02	.08	1.12	.10	.01	.004	.001		
IN.	.27	.05	.03	.03	.02	.03	.09	1.28	.11	.01	.00	.00		
AC-FT	4620	802	431	443	385	468	1480	21980	1860	234	78	20		
CAL YR 1981 TOTAL	81760.32		MEAN	224	MAX	14500	MIN	.41	CFSM	.70	IN	9.47	AC-FT	162200
WTR YR 1982 TOTAL	16540.72		MEAN	45.3	MAX	6510	MIN	.01	CFSM	.14	IN	1.92	AC-FT	32810

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 September 1982 (discontinued). Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)
APR 23...	1155	148	287	7.9	14.0	30	60	9.7	95	2.8
MAY 13...	1200	8180	175	7.8	18.0	90	810	9.2	99	7.5
JUL 26...	1210	1.2	496	8.1	31.5	<1	.90	7.8	108	.4

DATE	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 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)
APR 23...	24000	58000	120	23	42	4.3	9.9	.4	3.3
MAY 13...	46000	310000	72	6	25	2.2	6.8	.4	3.7
JUL 26...	48	230	170	13	51	11	35	1.2	3.0

DATE	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
APR 23...	100	24	11	.3	6.7	162	95	9	.66
MAY 13...	66	15	7.5	.2	8.3	108	374	68	.11
JUL 26...	160	36	41	.4	12	286	5	<2	--

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
APR 23...	.040	.70	.290	.81	1.10	.210	5.8	--	--
MAY 13...	.210	.32	.340	4.0	4.30	1.60	20	--	--
JUL 26...	<.020	<.10	.060	1.7	1.80	.030	3.1	18	.06

COLORADO RIVER BASIN

08159000 ONION CREEK AT U.S. HIGHWAY 183, NEAR AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
APR 23...	1155	2	37	<3	<10	1	34
JUL 26...	1210	2	52	<1	<10	<1	<3

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
APR 23...	1	<3	<.1	<1	<1	<12
JUL 26...	<1	8	<.1	<1	<1	3

DATE	TIME	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
APR 23...	1155	<.10	<.10	.40	<.10	<.10	<2.0	.2
JUL 26...	1210	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

DATE	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
APR 23...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
JUL 26...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

BEAR CREEK AND LITTLE BEAR CREEK DRAINAGE BASINS

The surface-water hydrologic data for the Bear Creek and Little Bear Creek drainage basins for the 1982 water year are given in the following pages:

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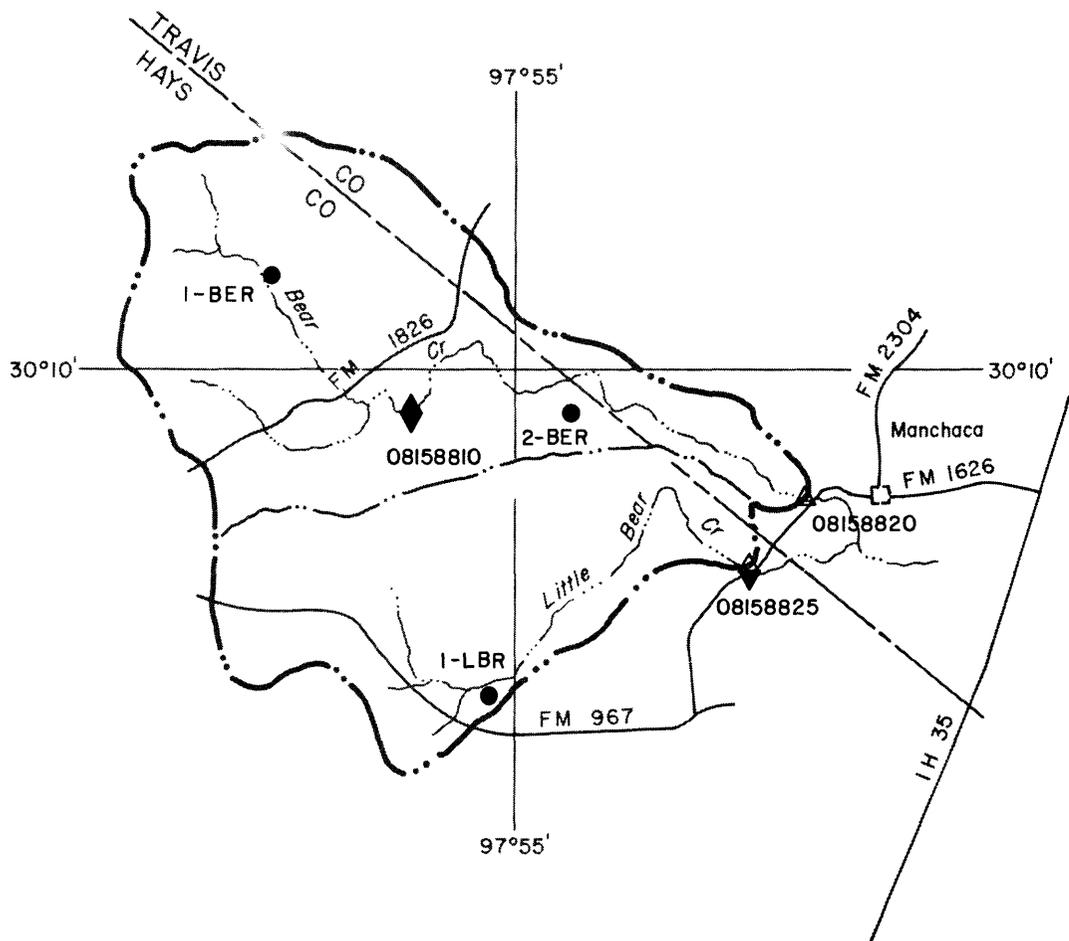
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EXPLANATION

- ▲ STREAMFLOW-GAGING STATION
- △ FLOOD-HYDROGRAPH PARTIAL-RECORD STATION
- ▼ WATER-QUALITY SAMPLING SITE
- RECORDING RAIN GAGE
- · · · — DRAINAGE DIVIDE
- · · · — DRAINAGE SUBDIVIDE



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

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

Table 9.--Storm rainfall-runoff data, 1982 water year, Bear Creek drainage basin

Date of Storm	Duration (hours)	Rainfall (inches)		Runoff (inches)	Ratio of runoff to rainfall	Maximum discharge (ft ³ /s)
		Total	Maximum increment 15-minute 30-minute 60-minute			
May 13, 1982	9	3.63	0.72 1.34 2.18	0.85	0.24	4,210

Bear Creek below Farm Road 1826 near Driftwood, Tex.
(Drainage area.--12.2 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 good. Station is part of a hydrologic research project to study rainfall-runoff relation for the Austin urban-rural areas. There is a recording rain gage located in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,330 ft³/s (236 m³/s) June 11, 1981, gage height, 13.05 ft (3.978 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 resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,210 ft³/s (119 m³/s) May 13 at 0900 hours, gage height, 10.41 ft (3.173 m), no other peak above base of 500 ft³/s (14.2 m³/s); no flow Sept. 13, 18, 19.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	2.9	1.6	1.2	.57	.45	.37	2.2	7.5	3.4	.36	.04
2	.93	2.5	1.4	1.0	.57	.45	.36	2.0	6.9	2.9	.30	.04
3	.91	2.5	1.4	1.0	.63	.45	.33	1.9	6.9	2.6	.30	.03
4	.91	2.3	1.4	1.0	.57	.45	.33	1.7	6.6	2.4	.27	.04
5	.86	2.2	1.4	.91	.57	.45	.32	1.7	6.0	2.3	.26	.04
6	19	2.1	1.4	.80	.51	.45	.28	3.4	5.7	2.1	.25	.04
7	8.1	2.1	1.4	.91	.57	.40	.29	2.2	5.4	1.9	.24	.05
8	6.1	2.7	1.4	.91	.50	.40	.31	1.8	4.9	1.7	.20	.04
9	5.7	2.3	1.4	.80	.51	.40	.30	1.7	4.3	1.3	.19	.04
10	4.9	2.3	1.5	.80	.51	.40	.33	1.7	3.8	1.3	.20	.03
11	4.7	2.3	1.3	.90	.51	.40	.30	1.8	3.3	1.1	.20	.03
12	4.7	2.3	1.3	1.2	.51	.42	.30	2.0	4.9	1.1	.22	.02
13	4.6	2.1	1.4	.85	.51	.45	.30	258	3.6	1.2	.19	.00
14	4.5	2.1	1.4	.91	.51	.45	.28	22	3.1	1.4	.15	.02
15	4.1	2.1	1.1	.91	.45	.45	.28	19	2.9	1.2	.14	.02
16	4.0	2.1	1.2	.90	.45	.45	.28	21	3.6	1.1	.14	.02
17	3.8	2.1	1.2	.71	.51	.45	.28	22	2.9	1.0	.14	.01
18	3.5	2.1	1.0	.70	.51	.44	.28	19	2.7	.97	.14	.00
19	3.3	2.1	1.0	.80	.45	.40	.28	18	2.5	.95	.13	.00
20	3.3	1.9	1.2	.79	.45	.40	.86	16	2.3	.88	.11	.07
21	3.2	1.9	1.1	.70	.45	.40	.41	15	2.1	.74	.10	.06
22	3.9	1.7	1.0	.70	.51	.40	3.2	14	17	.70	.09	.04
23	3.7	1.7	1.0	.70	.45	.52	2.6	12	7.8	.66	.09	.04
24	3.3	1.7	1.1	.70	.44	.42	2.8	14	4.1	.62	.09	.03
25	3.3	1.7	1.0	.69	.46	.39	3.2	12	3.1	.59	.08	.03
26	3.1	1.7	1.0	.62	.63	.37	3.0	11	2.7	.54	.07	.02
27	2.9	1.7	1.0	.63	.52	.36	2.7	11	5.2	.45	.06	.02
28	2.8	1.7	1.2	.57	.50	.37	2.6	10	3.6	.42	.05	.02
29	2.8	1.7	1.0	.62	---	.37	2.4	9.6	2.9	.40	.05	.02
30	2.7	1.7	1.0	.81	---	.37	2.3	8.7	3.9	.40	.04	.02
31	3.3	---	1.2	.64	---	.37	---	8.1	---	.37	.04	---
TOTAL	123.91	62.3	38.0	25.38	14.33	12.95	31.87	544.5	142.2	38.69	4.89	.88
MEAN	4.00	2.08	1.23	.82	.51	.42	1.06	17.6	4.74	1.25	.16	.029
MAX	19	2.9	1.6	1.2	.63	.52	3.2	258	17	3.4	.36	.07
MIN	.86	1.7	1.0	.57	.44	.36	.28	1.7	2.1	.37	.04	.00
CFSM	.33	.17	.10	.07	.04	.03	.09	1.44	.39	.10	.01	.002
IN.	.38	.19	.12	.08	.04	.04	.10	1.66	.43	.12	.01	.00
AC-FT	246	124	75	50	28	26	63	1080	282	77	9.7	1.7

CAL YR 1981	TOTAL	5930.04	MEAN	16.2	MAX	915	MIN	.84	CFSM	1.33	IN	18.08	AC-FT	11760
WTR YR 1982	TOTAL	1039.90	MEAN	2.85	MAX	258	MIN	.00	CFSM	.23	IN	3.17	AC-FT	2060

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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, KF AGAR (COLS. PER 100 ML)
APR 22...	1435	5.4	359	8.2	14.5	25	24	9.4	94	1.6	2300	12000
JUL 26...	0958	.57	476	8.0	28.0	<1	1.2	5.9	78	.1	420	240

DATE	TIME	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)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
APR 22...	170	4	50	12	4.8	.2	1.8	170	5.0	9.1	.2	11	
JUL 26...	240	30	68	17	8.5	.3	1.1	210	30	15	.2	12	

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 22...	196	22	5	.23	.020	.25	.160	.60	.76	.040	4.9
JUL 26...	278	3	<2	--	<.020	<.10	.060	.64	.70	.020	1.3

DATE	TIME	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS Ba)	CADMIUM, DIS-SOLVED (UG/L AS Cd)	CHROMIUM, DIS-SOLVED (UG/L AS Cr)	COPPER, DIS-SOLVED (UG/L AS Cu)	IRON, DIS-SOLVED (UG/L AS Fe)
APR 22...	1435	1	22	<3	<10	1	29
JUL 26...	0958	1	31	<1	<10	<1	<3

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 22...	1	<3	<.1	<1	<1	<12
JUL 26...	<1	2	<.1	<1	<1	3

COLORADO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
APR 22...	1435	<.10	<.10	<.10	<.10	<.10	--	<.1
JUL 26...	0958	<.10	<.10	<.10	<.10	<.10	<2.0	.2

DATE	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
APR 22...	<.1	<.10	--	--	<.10	<.10	<.1
JUL 26...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STATION NO. 08158810		STORM RAINFALL AND RUNOFF RECORD				1982 WATER YEAR	
BEAR CREEK BELOW FARM ROAD 1826 NEAR DMIF #000, TEXAS		STORM OF MAY 13, 1982		ACCUM. WGT. PRECIP.	DISCHARGE IN	ACCUM. RUNOFF	
DATE & TIME	18EK	IN.	PRECIP.	IN.	CFD	IN.	
MAY 13							
0000	0.0		0.0	0.0	2.3	0.0001	
0030	0.02		0.02	0.02	2.3	0.0003	
0115	0.05		0.05	0.05	2.3	0.0004	
0130	0.14		0.14	0.14	2.3	0.0005	
0200	0.60		0.60	0.60	5.2	0.0008	
0230	0.71		0.71	0.71	14.0	0.0035	
0500	0.72		0.72	0.72	12.0	0.0065	
0700	1.08		1.08	1.08	9.9	0.0084	
0715	1.37		1.37	1.37	11.0	0.0087	
0730	1.95		1.95	1.95	17.0	0.0052	
0745	2.71		2.71	2.71	46.0	0.0107	
0800	3.26		3.26	3.26	146.0	0.0153	
0815	3.50		3.50	3.50	571.0	0.0335	
0830	3.56		3.56	3.56	1760.0	0.0854	
0845	3.57		3.57	3.57	3820.0	0.1904	
0855	3.58		3.58	3.58	4080.0	0.2552	
0900	3.59		3.59	3.59	4210.0	0.2958	
0905	3.60		3.60	3.60	3970.0	0.3622	
0915	3.61		3.61	3.61	3500.0	0.4554	
0930	3.61		3.61	3.61	2500.0	0.5348	
0945	3.61		3.61	3.61	1670.0	0.5878	
1000	3.61		3.61	3.61	1080.0	0.6221	
1015	3.61		3.61	3.61	789.0	0.6472	
1030	3.61		3.61	3.61	579.0	0.6748	
1100	3.61		3.61	3.61	363.0	0.7053	
1200	3.61		3.61	3.61	164.0	0.7276	
1245	3.62		3.62	3.62	106.0	0.7360	
1315	3.62		3.62	3.62	82.0	0.7451	
1430	3.63		3.63	3.63	47.0	0.7526	
1545	3.63		3.63	3.63	32.0	0.7557	
1800	3.63		3.63	3.63	34.0	0.7710	
2100	3.63		3.63	3.63	28.0	0.7817	
2400	3.63		3.63	3.63	25.0	0.7912	
MAY 14							
0000	3.63		3.63	3.63	25.0	0.7912	
0600	3.63		3.63	3.63	24.0	0.8143	
1200	3.63		3.63	3.63	22.0	0.8310	
1800	3.63		3.63	3.63	21.0	0.8470	
2400	3.63		3.63	3.63	20.0	0.8547	

08158820 BEAR CREEK AT FARM ROAD 1626 NEAR MANCHACA, TEX.
(Flood-hydrograph partial-record gage)

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. No storms were analyzed for this station for the 1982 water year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft³/s June 11, 1981 (gage height, 15.60 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,400 ft³/s May 13 (gage height 9.93 ft).

COLORADO RIVER BASIN

08158825 LITTLE BEAR CREEK AT FARM ROAD 1626 NEAR MANCHACA, TX
(Flood-hydrograph partial-record station)

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

DRAINAGE AREA.--21.0 mi² (54.4 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.--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, 1981." A recording rain gage is located in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,530 ft³/s (157 m³/s) June 11, 1981, gage height, 12.30 ft (3.749 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,170 ft³/s (61.5 m³/s) May 13, gage height, 8.35 ft (2.545 m).

WATER-QUALITY RECORDS

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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECCAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECCAL, KF AGAR (COLS./100 ML)	
MAY 13...	1120	5310	96	8.3	19.0	90	65	7.4	83	4.4	23000 70000	
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)	ALKALINITY (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
MAY 13...	41	0	14	1.4	.9	.0	3.8	43	5.0	1.8	<.1	11
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 (MG/L AS N)	NITROGEN, NITRITE (MG/L AS N)	NITROGEN, NO2+NO3 (MG/L AS N)	NITROGEN, AMMONIA (MG/L AS N)	NITROGEN, ORGANIC (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC (MG/L AS C)	
MAY 13...	64	132	44	.13	.020	.15	.120	2.0	2.10	.210	19	

COLORADO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
MAY 13...	1120	1	8	<3	<10	1	180

DATE	TIME	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY 13...		14	3	<.1	<1	<1	13

DATE	TIME	AME- TRYNE TOTAL (UG/L)	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPR- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
MAY 13...	1120	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

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

SLAUGHTER CREEK DRAINAGE BASIN

The surface-water hydrologic data for the Slaughter Creek drainage basin for the 1982 water year are given in the following pages:

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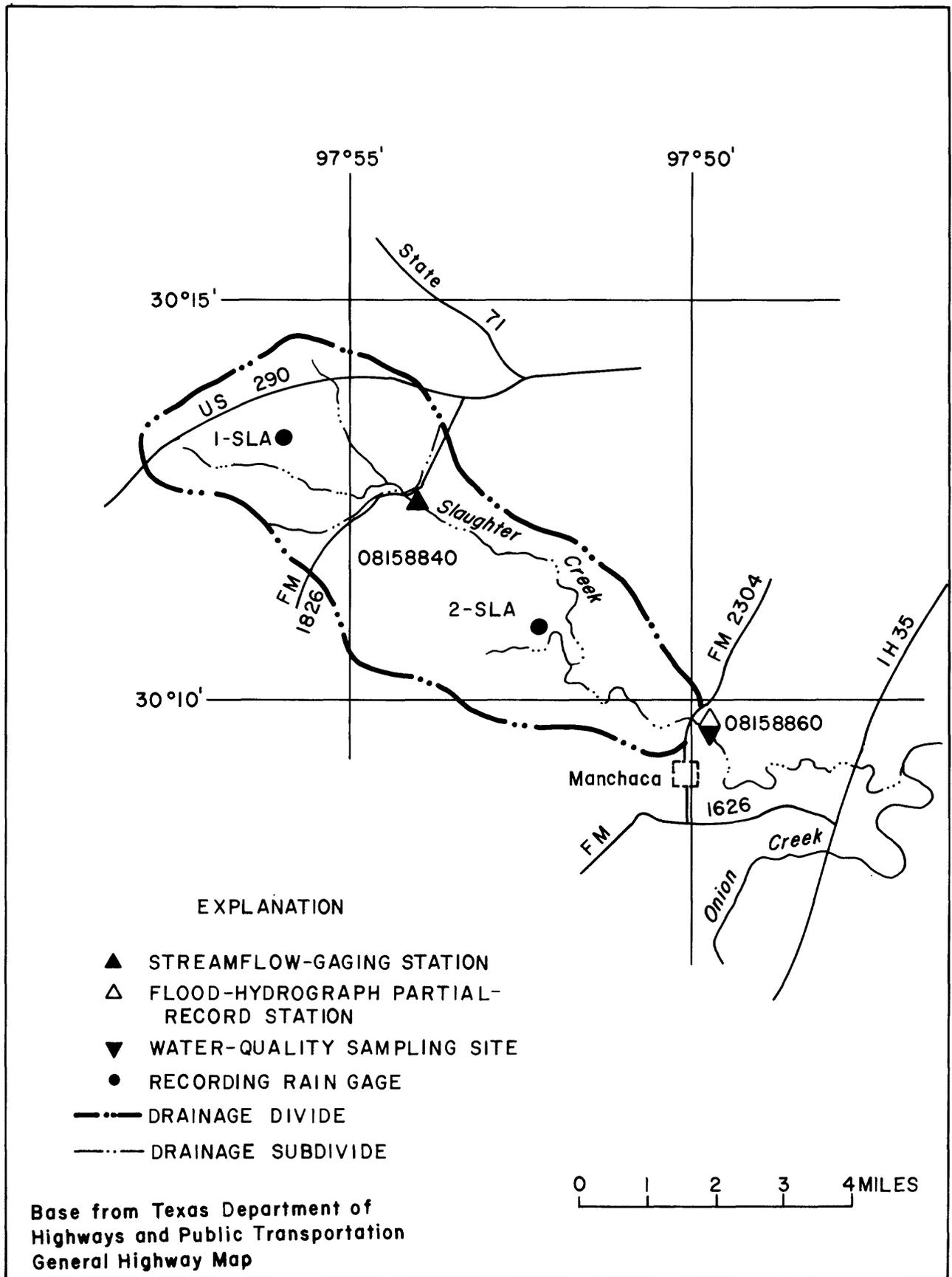


Figure 14.—Locations of surface-water data-collection sites in the Slaughter Creek drainage basin

Table 10.--Storm rainfall-runoff data, 1982 water year, Slaughter Creek drainage basin

Date of Storm	Duration (hours)	Rainfall (inches)			Runoff (inches)	Ratio of runoff to rainfall	Maximum discharge (ft ³ /s)
		Total	15-minute	Maximum increment 30-minute			
Slaughter Creek at Farm Road 1826 near Austin, Tex. (Drainage area.--8.24 mi ²)							
May 13, 1982	9	3.66	0.72	1.43	2.13	1.17	2,290
Slaughter Creek at Farm Road 2304 near Austin, Tex. (Drainage area.--23.1 mi ²)							
May 13, 1982	9	3.61	.74	1.43	2.13	.65	3,370

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 good. No known regulation or diversion. There is a recording rain gage in the watershed. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,080 ft³/s (116 m³/s) June 11, 1981, gage height, 10.79 ft (3.289 m); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,290 ft³/s (64.9 m³/s) May 13 at 0930 hours, gage height, 8.86 ft (2.701 m), no other peak above base of 500 ft³/s (14.2 m³/s); no flow for several days in August and September.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.05	4.5	1.1	.53	.34	.21	.27	3.6	4.1	1.2	.05	.00		
2	.04	3.1	1.0	.52	.34	.21	.27	3.1	3.7	.95	.03	.00		
3	.04	2.6	.91	.52	.32	.21	.24	2.8	3.7	.73	.03	.00		
4	.03	2.4	.85	.46	.30	.21	.24	2.6	3.4	.65	.02	.00		
5	.02	2.2	.82	.46	.30	.21	.22	2.4	3.1	.64	.02	.00		
6	3.2	2.0	.90	.46	.30	.20	.18	7.7	2.6	.57	.01	.00		
7	2.5	1.8	.91	.46	.30	.18	.20	3.6	2.6	.50	.00	.00		
8	2.0	4.2	.91	.42	.30	.18	.23	3.1	2.2	.44	.00	.00		
9	.76	3.4	.91	.42	.30	.18	.27	2.8	2.0	.40	.00	.00		
10	.47	2.5	.90	.42	.30	.18	.30	2.6	1.6	.42	.00	.00		
11	1.8	2.4	.91	.42	.30	.18	.27	2.6	1.5	.42	.00	.00		
12	.92	2.4	.82	.56	.29	.18	.25	3.4	2.0	.42	.00	.00		
13	1.6	2.4	.75	.50	.27	.18	.24	249	1.6	.44	.00	.00		
14	2.1	2.0	.73	.46	.27	.18	.21	31	1.3	.46	.00	.00		
15	1.4	2.0	.73	.46	.27	.18	.21	25	1.2	.42	.00	.00		
16	1.2	1.8	.73	.44	.27	.18	.21	44	1.8	.40	.00	.00		
17	1.1	1.8	.70	.42	.26	.18	.21	42	1.2	.35	.00	.00		
18	.90	1.8	.59	.42	.24	.18	.21	23	1.0	.28	.00	.00		
19	.82	1.7	.59	.42	.24	.18	.21	16	.82	.22	.00	.00		
20	.82	1.5	.63	.42	.24	.18	.47	12	.74	.20	.00	.03		
21	.85	1.5	.81	.42	.24	.17	.07	11	.66	.18	.00	.00		
22	1.6	1.5	.72	.42	.21	.21	7.9	9.1	37	.17	.00	.00		
23	1.5	1.5	.59	.39	.23	.74	6.7	7.8	6.5	.15	.00	.00		
24	1.2	1.4	.59	.38	.21	.30	9.4	16	1.9	.17	.00	.00		
25	1.2	1.3	.59	.37	.22	.23	8.6	9.8	1.5	.15	.00	.00		
26	.96	1.2	.59	.34	.36	.21	5.9	7.8	1.4	.11	.00	.00		
27	.91	1.1	.59	.34	.27	.25	5.1	7.2	2.1	.09	.00	.00		
28	.91	1.1	.59	.34	.24	.27	4.7	6.2	1.3	.08	.00	.00		
29	.91	1.1	.59	.34	---	.28	4.0	5.3	1.1	.06	.00	.00		
30	1.0	1.2	.59	.52	---	.30	3.7	4.8	1.1	.05	.00	.00		
31	4.8	---	.59	.37	---	.28	---	4.1	---	.05	.00	---		
TOTAL	37.61	61.4	23.23	13.42	7.73	7.01	60.98	571.4	96.72	11.37	.16	.03		
MEAN	1.21	2.05	.75	.43	.28	.23	2.03	18.4	3.22	.37	.005	.001		
MAX	4.8	4.5	1.1	.56	.36	.74	9.4	249	37	1.2	.05	.03		
MIN	.02	1.1	.59	.34	.21	.17	.07	2.4	.66	.05	.00	.00		
CFSM	.15	.25	.09	.05	.03	.03	.25	2.23	.39	.05	.001	.000		
IN.	.17	.28	.10	.06	.03	.03	.28	2.58	.44	.05	.00	.00		
AC-FT	75	122	46	27	15	14	121	1130	192	23	.3	.06		
CAL YR 1981	TOTAL	3930.93	MEAN	10.8	MAX	901	MIN	.02	CFSM	1.31	IN	17.74	AC-FT	7800
WTR YR 1982	TOTAL	891.06	MEAN	2.44	MAX	249	MIN	.00	CFSM	.30	IN	4.02	AC-FT	1770

STORM RAINFALL AND KUNOFF RECORD										
1982 WATER YEAR										
STA. NO.	STORM OF MAY 13, 1982				ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. KUNOFF			
DATE & TIME	ISLA	GAGE	NUMBER	PRECIP.	IN.	CFS	IN.			
MAY 13										
0000	0.0			0.0	3.4	0.0001				
0010	0.01			0.01	3.4	0.0006				
0140	0.08			0.08	4.0	0.0013				
0210	0.49			0.49	0.1	0.0020				
0245	0.56			0.56	0.8	0.0030				
0315	0.56			0.56	23.0	0.0051				
0345	0.56			0.56	22.0	0.0067				
0400	0.56			0.56	17.0	0.0096				
0535	0.57			0.57	5.1	0.0114				
0605	0.68			0.68	9.3	0.0120				
0615	0.78			0.78	9.8	0.0124				
0635	0.78			0.78	10.0	0.0134				
0715	1.12			1.12	21.0	0.0152				
0730	1.48			1.48	38.0	0.0179				
0800	2.91			2.91	306.0	0.0394				
0815	3.25			3.25	650.0	0.0715				
0830	3.43			3.43	1190.0	0.1278				
0845	3.52			3.52	1790.0	0.2120				
0900	3.60			3.60	2070.0	0.3053				
0915	3.64			3.64	2210.0	0.4132				
0930	3.66			3.66	2250.0	0.5209				
0945	3.66			3.66	2130.0	0.6711				
1015	3.66			3.66	1310.0	0.7635				
1030	3.66			3.66	1080.0	0.8142				
1045	3.66			3.66	965.0	0.8596				
1100	3.66			3.66	776.0	0.8961				
1115	3.66			3.66	637.0	0.9410				
1145	3.66			3.66	414.0	0.9702				
1200	3.66			3.66	368.0	0.9962				
1230	3.66			3.66	231.0	1.0124				
1245	3.66			3.66	212.0	1.0224				
1300	3.66			3.66	162.0	1.0300				
1315	3.66			3.66	149.0	1.0580				
1500	3.66			3.66	100.0	1.1027				
1800	3.66			3.66	65.0	1.1394				
2100	3.66			3.66	40.0	1.1619				
2400	3.66			3.66	25.0	1.1650				

NOTE: STREAMFLOW GAGE INOPERATIVE AFTER 1430 HOURS: THE LAST FOUR DISCHARGES ON THIS RECORD ARE ESTIMATED.

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, 1981." Two recording rain gages are located in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,340 ft³/s (236 m³/s) June 11, 1981, gage height, 12.40 ft (3.780 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,370 ft³/s (95.4 m³/s) May 13, gage height, 7.80 ft (2.377 m).

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	
MAY 13...	1000	391	121	8.0	18.5	120	150	8.4	92	4.2	25000 110000	
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)	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
MAY 13...	46	0	17	.8	1.0	.1	4.6	46	6.0	2.1	.2 14	
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 (MG/L AS N)	NITROGEN, NITRITE (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)	
MAY 13...	74	303	47	.21	.050	.26	.110	2.1	2.20	.390	15	

COLORADO RIVER BASIN

08158860 SLAUGHTER CREEK AT FARM ROAD 2304 NEAR AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
MAY 13...	1000	2	10	<3	<10	2	210

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

DATE	TIME	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
MAY 13...	1000	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

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

STATION		STORM RAINFALL AND RUNOFF RECORD										1982 WATER YEAR				
SLAUGHTER CREEK AT FARM ROAD 2304 NEAR AUSTIN, TEXAS		STORM OF MAY 13, 1982										ACCUM. RUNOFF				
DATE & TIME		G A G E N U M B E R										DISCHARGE IN				
		25LA										CFS				
		15LA										IN.				
		PRECIP. IN.										ACCUM. RUNOFF				
MAY 13																
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0000		
0025	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	1.0	0.0001		
0120	0.06	0.06	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	1.0	0.0001		
0125	0.07	0.07	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	1.0	0.0001		
0140	0.08	0.08	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	2.0	0.0001		
0155	0.28	0.28	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	3.0	0.0002		
0205	0.40	0.40	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	5.0	0.0002		
0210	0.49	0.49	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	5.0	0.0003		
0220	0.53	0.53	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	5.0	0.0003		
0225	0.54	0.54	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	5.0	0.0004		
0240	0.55	0.55	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	7.0	0.0008		
0430	0.56	0.56	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	5.0	0.0012		
0500	0.57	0.57	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	60.0	0.0034		
0535	0.57	0.57	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	25.0	0.0043		
0600	0.67	0.67	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	10.0	0.0046		
0635	0.78	0.78	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	6.0	0.0048		
0715	1.12	1.12	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	4.0	0.0050		
0730	1.48	1.48	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	3.0	0.0050		
0740	1.94	1.94	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	7.0	0.0051		
0745	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	10.0	0.0052		
0755	2.58	2.58	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	29.0	0.0054		
0800	2.91	2.91	2.47	2.47	2.47	2.47	2.47	2.47	2.47	2.47	2.47	2.47	38.0	0.0056		
0805	3.08	3.08	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	50.0	0.0060		
0815	3.25	3.25	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	80.0	0.0071		
0830	3.43	3.43	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	110.0	0.0090		
0845	3.52	3.52	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32	183.0	0.0121		
0900	3.80	3.80	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	238.0	0.0161		
0915	3.64	3.64	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	321.0	0.0214		
0930	3.66	3.66	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	446.0	0.0289		
0945	3.66	3.66	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	495.0	0.0414		
1015	3.66	3.66	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	375.0	0.0509		
1030	3.66	3.66	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	552.0	0.0602		
1045	3.66	3.66	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	2190.0	0.0969		
1100	3.66	3.66	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	2840.0	0.1366		
1110	3.66	3.66	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3150.0	0.1633		
1115	3.66	3.66	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3370.0	0.1822		
1120	3.66	3.66	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3310.0	0.2377		
1145	3.66	3.66	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	2890.0	0.3265		
1215	3.66	3.66	3.57	3.57	3.57	3.57	3.57	3.57	3.57	3.57	3.57	3.57	2100.0	0.3754		

STORM RAINFALL AND RUNOFF RECORD									
STORM OF MAY 13, 1962									
SLAUGHTER CREEK AT FARM ROAD 2304 NEAR AUSTIN, TEXAS									
1962 WATER YEAR									
STA. NO.	DATE & TIME	15LA	25LA	GAUGE NUMBER	ACCUM. WEIGHED PRECIP.	DISCHARGE IN	ACCUM. DISCHARGE IN	RUNOFF	
MAY 13									
1230		3.66	3.57		3.61	1610.0	0.4159		
1300		3.66	3.57		3.61	1120.0	0.4480		
1315		3.66	3.57		3.61	925.0	0.4635		
1330		3.66	3.57		3.61	801.0	0.4837		
1400		3.66	3.57		3.61	603.0	0.4989		
1415		3.66	3.57		3.61	515.0	0.5163		
1500		3.66	3.57		3.61	379.0	0.5322		
1530		3.66	3.57		3.61	313.0	0.5400		
1545		3.66	3.57		3.61	302.0	0.5502		
1630		3.66	3.57		3.61	238.0	0.5581		
1645		3.66	3.57		3.61	229.0	0.5658		
1730		3.66	3.57		3.61	151.0	0.5752		
1800		3.66	3.57		3.61	150.0	0.5917		
2000		3.66	3.57		3.61	125.0	0.6050		
2200		3.66	3.57		3.61	80.0	0.6158		
2400		3.66	3.57		3.61	50.0	0.6241		
MAY 14									
0000		3.66	3.57		3.61	50.0	0.6241		
0600		3.66	3.57		3.61	30.0	0.6412		
1200		3.66	3.57		3.61	15.0	0.6473		
1800		3.66	3.57		3.61	8.0	0.6505		
2400		3.66	3.57		3.61	5.0	0.6515		

BOGGY CREEK (SOUTH) DRAINAGE BASIN

The surface-water hydrologic data for the Boggy Creek (South) drainage basin for the 1982 water year are given in the following pages:

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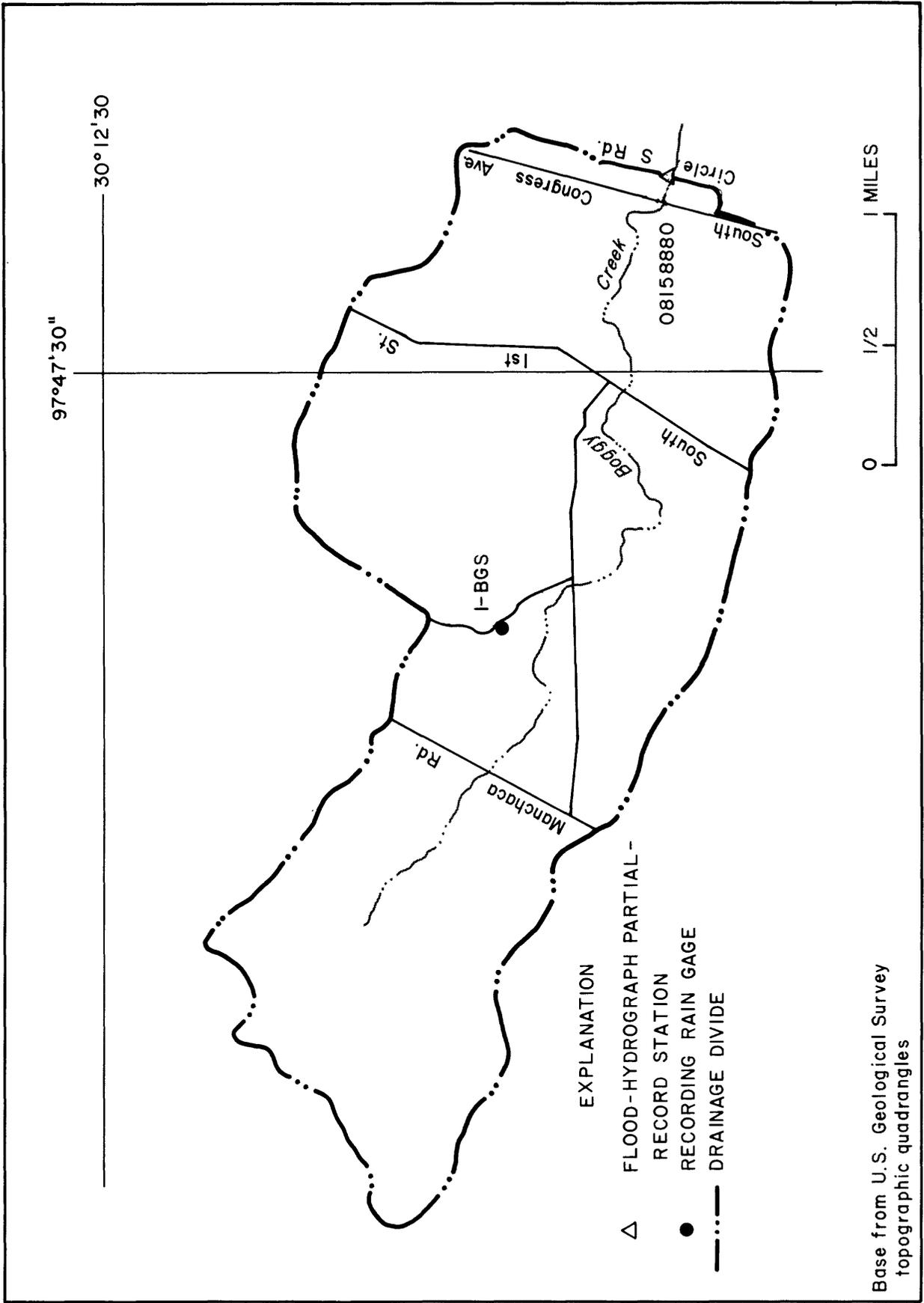


Figure 15.—Locations of surface-water data-collection sites in the Bogy Creek (south) drainage basin

Table 11.--Storm rainfall-runoff data, 1982 water year, Boggy Creek (South) drainage basin

Date of Storm	Duration (hours)	Rainfall (inches)		Runoff (inches)	Ratio of runoff to rainfall	Maximum discharge (ft ³ /s)
		Total	Maximum increment 15-minute 30-minute 60-minute			
May 13, 1982	9	3.97	0.68 0.97 1.58	1.53	0.38	1,360

Boggy Creek (South) at Circle "S" Road, Austin, Tex.
(Drainage area.--3.58 mi²)

08158880 BOGGY CREEK (SOUTH) AT CIRCLE S ROAD, AUSTIN, TEX.
(Flood-hydrograph partial-record gage)

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.

REVISED RECORDS.--Open-file report 82-506: 1979 maximum.

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 591.66 ft NGVD.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,920 ft³/s (gage height, 10.56 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,360 ft³/s May 13 (gage height 7.45 ft).

STORM RAINFALL AND RUNOFF RECORD										1982 WATER YEAR	
BUGGY CREEK (SOUTH) AT CIRCLE 'S' ROAD, AUSTIN, TEXAS										STORM OF MAY 13, 1982	
DATE & TIME	IBGS	GAUGE	NUMBER	PRECIP.	ACCUM.	WEIGHTED	DISCHARGE	IN	ACCUM.	IN	RUNOFF
				IN.	PRECIP.	PRECIP.	CFS		IN.		IN.
MAY 13											
0000	0.0			0.0	0.0	0.0	0.1	0.1	0.0000		0.0000
0030	0.01			0.01	0.01	0.01	0.1	0.1	0.0000		0.0000
0050	0.02			0.02	0.02	0.02	0.2	0.2	0.0001		0.0001
0100	0.10			0.10	0.10	0.10	1.0	1.0	0.0002		0.0002
0130	0.27			0.27	0.27	0.27	2.0	2.0	0.0005		0.0005
0145	0.28			0.28	0.28	0.28	5.0	5.0	0.0009		0.0009
0150	0.39			0.39	0.39	0.39	6.0	6.0	0.0012		0.0012
0200	0.47			0.47	0.47	0.47	10.0	10.0	0.0019		0.0019
0210	0.71			0.71	0.71	0.71	15.0	15.0	0.0027		0.0027
0215	0.99			0.99	0.99	0.99	18.0	18.0	0.0034		0.0034
0220	1.19			1.19	1.19	1.19	20.0	20.0	0.0041		0.0041
0225	1.30			1.30	1.30	1.30	100.0	100.0	0.0077		0.0077
0230	1.36			1.36	1.36	1.36	205.0	205.0	0.0151		0.0151
0235	1.45			1.45	1.45	1.45	264.0	264.0	0.0246		0.0246
0240	1.61			1.61	1.61	1.61	348.0	348.0	0.0372		0.0372
0245	1.66			1.66	1.66	1.66	451.0	451.0	0.0535		0.0535
0250	1.68			1.68	1.68	1.68	490.0	490.0	0.0711		0.0711
0255	1.68			1.68	1.68	1.68	550.0	550.0	0.0910		0.0910
0300	1.68			1.68	1.68	1.68	534.0	534.0	0.1102		0.1102
0305	1.68			1.68	1.68	1.68	521.0	521.0	0.1478		0.1478
0320	1.68			1.68	1.68	1.68	411.0	411.0	0.1775		0.1775
0325	1.68			1.68	1.68	1.68	355.0	355.0	0.1903		0.1903
0330	1.68			1.68	1.68	1.68	373.0	373.0	0.2104		0.2104
0340	1.68			1.68	1.68	1.68	425.0	425.0	0.2411		0.2411
0350	1.68			1.68	1.68	1.68	420.0	420.0	0.2638		0.2638
0355	1.68			1.68	1.68	1.68	387.0	387.0	0.2778		0.2778
0400	1.68			1.68	1.68	1.68	379.0	379.0	0.2915		0.2915
0405	1.68			1.68	1.68	1.68	300.0	300.0	0.3185		0.3185
0425	1.68			1.68	1.68	1.68	210.0	210.0	0.3375		0.3375
0430	1.68			1.68	1.68	1.68	171.0	171.0	0.3498		0.3498
0445	1.68			1.68	1.68	1.68	126.0	126.0	0.3589		0.3589
0450	1.68			1.68	1.68	1.68	107.0	107.0	0.3705		0.3705
0515	1.69			1.69	1.69	1.69	78.0	78.0	0.3887		0.3887
0555	1.70			1.70	1.70	1.70	50.0	50.0	0.3978		0.3978
0605	1.86			1.86	1.86	1.86	40.0	40.0	0.4100		0.4100
0725	1.89			1.89	1.89	1.89	15.0	15.0	0.4144		0.4144
0725	1.92			1.92	1.92	1.92	18.0	18.0	0.4150		0.4150
0730	2.01			2.01	2.01	2.01	20.0	20.0	0.4157		0.4157
0735	2.19			2.19	2.19	2.19	25.0	25.0	0.4184		0.4184

STORM MAINFALL AND RUNOFF RECORD									
STORM OF MAY 13, 1982									
BUGGY CREEK (SOUTH) AT CIRCLE 15, ROAD, AUSTIN, TEXAS									
DATE & TIME	1805	1905	2005	2105	2205	2305	2405	2505	2605
MAY 13									
	IN.	PRECIP.	ACCUM.	IN.	PRECIP.	ACCUM.	IN.	PRECIP.	ACCUM.
	CFS	IN.	PRECIP.	CFS	IN.	PRECIP.	CFS	IN.	PRECIP.
0800	62.0	0.00	0.00	62.0	0.00	0.00	62.0	0.00	0.00
0805	77.0	0.01	0.01	77.0	0.01	0.01	77.0	0.01	0.01
0810	114.0	0.08	0.08	114.0	0.08	0.08	114.0	0.08	0.08
0815	188.0	0.30	0.30	188.0	0.30	0.30	188.0	0.30	0.30
0820	283.0	0.41	0.41	283.0	0.41	0.41	283.0	0.41	0.41
0825	496.0	0.48	0.48	496.0	0.48	0.48	496.0	0.48	0.48
0830	745.0	0.55	0.55	745.0	0.55	0.55	745.0	0.55	0.55
0835	865.0	0.67	0.67	865.0	0.67	0.67	865.0	0.67	0.67
0840	959.0	0.72	0.72	959.0	0.72	0.72	959.0	0.72	0.72
0845	1020.0	0.77	0.77	1020.0	0.77	0.77	1020.0	0.77	0.77
0850	1180.0	0.84	0.84	1180.0	0.84	0.84	1180.0	0.84	0.84
0900	1160.0	0.88	0.88	1160.0	0.88	0.88	1160.0	0.88	0.88
0905	1220.0	0.91	0.91	1220.0	0.91	0.91	1220.0	0.91	0.91
0910	1230.0	0.93	0.93	1230.0	0.93	0.93	1230.0	0.93	0.93
0915	1200.0	0.94	0.94	1200.0	0.94	0.94	1200.0	0.94	0.94
0920	1360.0	0.95	0.95	1360.0	0.95	0.95	1360.0	0.95	0.95
0925	1180.0	0.96	0.96	1180.0	0.96	0.96	1180.0	0.96	0.96
0930	1170.0	0.97	0.97	1170.0	0.97	0.97	1170.0	0.97	0.97
0935	1200.0	0.97	0.97	1200.0	0.97	0.97	1200.0	0.97	0.97
0940	936.0	0.97	0.97	936.0	0.97	0.97	936.0	0.97	0.97
0950	925.0	0.97	0.97	925.0	0.97	0.97	925.0	0.97	0.97
0955	854.0	0.97	0.97	854.0	0.97	0.97	854.0	0.97	0.97
1000	708.0	0.97	0.97	708.0	0.97	0.97	708.0	0.97	0.97
1005	704.0	0.97	0.97	704.0	0.97	0.97	704.0	0.97	0.97
1010	662.0	0.97	0.97	662.0	0.97	0.97	662.0	0.97	0.97
1015	633.0	0.97	0.97	633.0	0.97	0.97	633.0	0.97	0.97
1020	562.0	0.97	0.97	562.0	0.97	0.97	562.0	0.97	0.97
1030	472.0	0.97	0.97	472.0	0.97	0.97	472.0	0.97	0.97
1035	454.0	0.97	0.97	454.0	0.97	0.97	454.0	0.97	0.97
1040	397.0	0.97	0.97	397.0	0.97	0.97	397.0	0.97	0.97
1110	240.0	0.97	0.97	240.0	0.97	0.97	240.0	0.97	0.97
1145	118.0	0.97	0.97	118.0	0.97	0.97	118.0	0.97	0.97
1225	70.0	0.97	0.97	70.0	0.97	0.97	70.0	0.97	0.97
1340	20.0	0.97	0.97	20.0	0.97	0.97	20.0	0.97	0.97
1500	10.0	0.97	0.97	10.0	0.97	0.97	10.0	0.97	0.97
1630	5.0	0.97	0.97	5.0	0.97	0.97	5.0	0.97	0.97
1800	2.0	0.97	0.97	2.0	0.97	0.97	2.0	0.97	0.97
2100	1.5	0.97	0.97	1.5	0.97	0.97	1.5	0.97	0.97
2400	1.0	0.97	0.97	1.0	0.97	0.97	1.0	0.97	0.97

WILLIAMSON CREEK DRAINAGE BASIN

The surface-water hydrologic data for the Williamson Creek drainage basin for the 1982 water year are given in the following pages:

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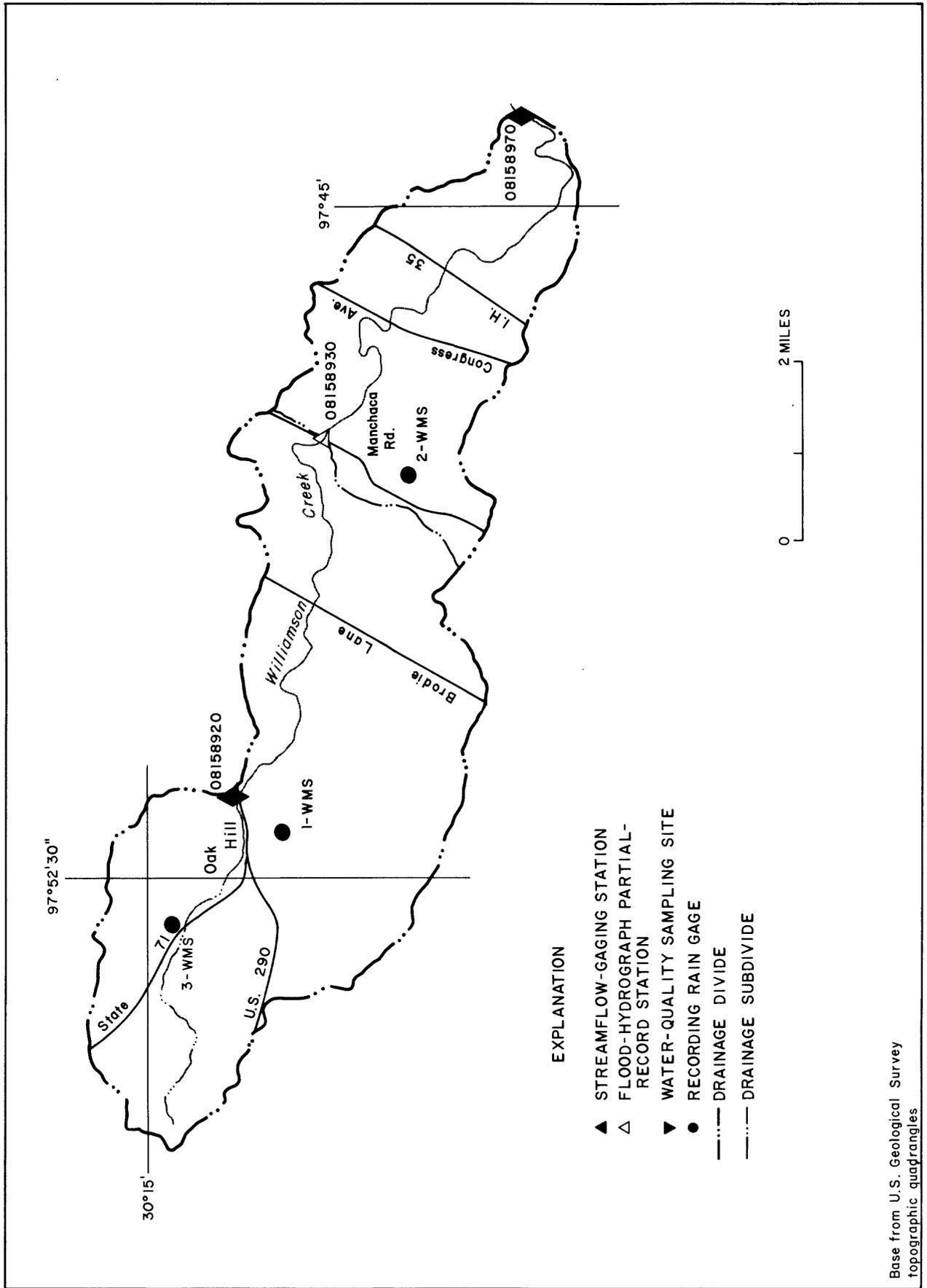
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Base from U.S. Geological Survey topographic quadrangles

Figure 16.—Locations of surface-water data-collection sites in the Williamson Creek drainage basin

Table 12.--Storm rainfall-runoff data, 1982 water year, Williamson Creek drainage basin

Date of Storm	Duration (hours)	Rainfall (inches)		Runoff (inches)	Ratio of runoff to rainfall	Maximum discharge (ft ³ /s)
		Total	Maximum increment 15-minute 30-minute 60-minute			
Williamson Creek at Oak Hill, Tex. (Drainage area.--6.30 mi ²)						
May 13, 1982	9	3.56	0.65 1.18 1.87	1.39	0.39	1,580
Williamson Creek at Manchaca Road, Austin, Tex. (Drainage area.--19.0 mi ²)						
May 13, 1982	9	3.67	0.65 1.13 1.86	1.41	.39	3,900

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 and crest-stage gage. 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. Station is equipped with automatic water-quality sampler. Two recording rain gages are located in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,170 ft³/s (118 m³/s) June 11, 1981, gage height, 8.55 ft (2.606 m); no flow for many days each year.

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)
May 13	0815	*1,580	44.7	5.69	1.734
Aug. 18	1900	619	17.5	4.08	1.244

Minimum discharge, no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.22	.02	.00	.00	.00	.02	2.6	.34	.00	.00	.00
2	.00	.13	.02	.00	.00	.00	.05	2.4	.23	.00	.00	.00
3	.00	.06	.02	.00	.00	.00	.00	2.0	.23	.00	.00	.00
4	.00	.04	.02	.00	.00	.00	.00	1.7	.23	.00	.00	.00
5	.00	.04	.01	.00	.00	.00	.00	1.5	.23	.00	.00	.00
6	12	.04	.00	.00	.00	.00	.00	14	.23	.00	.00	.00
7	3.6	.04	.00	.00	.00	.00	.00	2.7	.23	.00	.00	.00
8	.09	.87	.00	.00	.00	.00	.00	2.0	.32	.00	.00	.00
9	.06	.16	.00	.00	.00	.00	.28	1.7	.29	.00	.00	.00
10	.00	.12	.00	.00	.00	.00	.05	1.7	.28	.00	.00	.00
11	2.3	.12	.00	.00	.00	.00	.02	1.7	.25	.00	.00	.00
12	.14	.12	.00	.01	.00	.00	.00	4.9	.81	.00	.00	.00
13	.05	.12	.00	.00	.00	.00	.00	194	.26	.00	.00	.00
14	.03	.12	.00	.00	.00	.00	.00	27	.23	.00	.00	.00
15	.04	.12	.00	.00	.00	.00	.00	14	.21	.00	.00	.00
16	.02	.12	.00	.00	.00	.00	.00	12	2.3	.00	.00	.00
17	.00	.12	.00	.00	.00	.00	.00	14	.15	.00	.00	.00
18	.00	.15	.00	.00	.00	.00	.00	7.4	.11	.00	31	.00
19	.00	.08	.00	.00	.00	.00	.00	4.8	.04	.00	.09	.00
20	.02	.07	.00	.00	.00	.00	2.4	3.2	.02	.00	.00	.31
21	.02	.07	.00	.00	.00	.00	.15	2.5	.03	.00	.00	.00
22	.36	.09	.00	.00	.00	.17	30	2.0	7.9	.00	.00	.00
23	.05	.09	.00	.00	.00	4.3	14	1.6	.62	.00	.00	.00
24	.02	.07	.00	.00	.00	.16	15	9.5	.04	.00	.00	.00
25	.01	.06	.00	.00	.00	.00	8.8	2.7	.02	.00	.00	.00
26	.00	.04	.00	.00	.01	.00	6.7	2.0	.02	.00	.00	.00
27	.00	.04	.00	.00	.00	.20	4.9	1.5	.71	.00	.00	.00
28	.00	.04	.00	.00	.00	.06	4.4	1.2	.02	.00	.00	.00
29	.00	.03	.00	.00	---	.12	3.4	.86	.00	.00	.00	.00
30	.06	.03	.00	.00	---	.11	3.0	.61	.00	.00	.00	.00
31	1.6	---	.00	.00	---	.01	---	.44	---	.00	.00	---
TOTAL	20.47	3.42	.09	.01	.01	5.13	93.17	340.21	16.35	.00	31.09	.31
MEAN	.66	.11	.003	.000	.000	.17	3.11	11.0	.55	.000	1.00	.010
MAX	12	.87	.02	.01	.01	4.3	30	194	7.9	.00	31	.31
MIN	.00	.03	.00	.00	.00	.00	.00	.44	.00	.00	.00	.00
CFSM	.11	.02	.000	.000	.000	.03	.49	1.75	.09	.000	.16	.002
IN.	.12	.02	.00	.00	.00	.03	.55	2.01	.10	.00	.18	.00
AC-FT	41	6.8	.2	.02	.02	10	185	675	32	.00	62	.6

CAL YR 1981	TOTAL	3707.09	MEAN	10.2	MAX	977	MIN	.00	CFSM	1.62	IN	21.89	AC-FT	7350
WTR YR 1982	TOTAL	510.26	MEAN	1.40	MAX	194	MIN	.00	CFSM	.22	IN	3.01	AC-FT	1010

COLORADO RIVER BASIN

08158920 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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	
OCT 06...	1040	23	215	7.8	23.0	30	400	--	--	5.1	120000	210000
APR 22...	1510	16	350	8.3	13.5	10	43	10.0	98	2.4	16000	46000
MAY 13...	0915	1260	181	8.0	18.0	60	390	8.9	97	5.6	74000	160000
AUG 18...	1900	117	210	--	--	--	--	--	--	--	--	--
18...	1915	623	157	8.0	--	--	--	--	--	--	--	--
18...	1930	254	153	--	--	--	--	--	--	--	--	--

DATE	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	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY, FIELD (MG/L AS CaCO3)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
OCT 06...	95	6	28	6.2	4.9	.2	2.7	89	5.0	9.1	.1	3.7
APR 22...	160	39	47	10	6.5	.2	2.6	120	24	21	.2	5.4
MAY 13...	81	6	24	5.0	2.3	.1	2.3	75	6.0	4.0	.1	5.1
AUG 18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	64	2	21	2.9	6.8	.4	3.5	62	14	3.8	.2	7.0
18...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 06...	106	376	68	.32	.050	.37	.140	.71	.85	.040	15
APR 22...	189	34	6	.92	.040	.96	.280	.72	1.00	.160	5.1
MAY 13...	94	813	112	.21	.070	.28	.200	2.1	2.30	.440	32
AUG 18...	--	--	--	--	--	--	--	--	--	--	--
18...	97	295	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--

COLORADO RIVER BASIN

08158920 WILLIAMSON CREEK AT OAKHILL, TX-Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT . 06...	1040	1	14	<1	0	1	15
APR 22...	1510	1	24	<3	<10	1	27
AUG 18...	1915	8	21	<1	<10	3	200

DATE	LEAD, DIS- SOLVED (UG/L AS PE)	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 06...	0	<1	.0	0	0	<3
APR 22...	1	<3	<.1	<1	<1	<12
AUG 18...	<1	9	<.1	<1	<1	8

DATE	TIME	AME- TRYNE TOTAL (UG/L)	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYPRA- ZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)
APR 22...	1510	<.10	<.10	.10	<.10	<.10	<2.0	.2
AUG 18...	1900	<.10	<.10	<.10	<.10	<.10	<2.0	3.6
18...	1930	<.10	<.10	<.10	<.10	<.10	<2.0	.1

DATE	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
APR 22...	<.1	<.10	<2.0	<2.0	.10	<.10	<.1
AUG 18...	<.1	<.10	<2.0	<2.0	.80	<.10	<.1
18...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

SIA. NO. 08158920		STORM RAINFALL AND RUNOFF RECORD										1982 WATER YEAR	
WILLIAMSUN CREEK AT OAK HILL, TEXAS		STORM OF MAY 13, 1982										ACCUM. HUNOFF	
DATE & TIME	1WMS	3WMS	6AGE	NUM	RE	PRECIP.	IN.	CFS	IN.	ACCUM.	DISCHARGE	IN.	ACCUM.
MAY 13													
0000	0.0	0.0				0.0				0.0	0.3		0.0000
0025	0.01	0.01				0.01				0.01	0.3		0.0001
0130	0.07	0.12				0.11				0.11	0.3		0.0001
0155	0.12	0.17				0.16				0.16	0.3		0.0001
0200	0.14	0.23				0.22				0.22	0.4		0.0002
0215	0.40	0.42				0.42				0.42	1.5		0.0003
0230	0.56	0.50				0.51				0.51	2.7		0.0004
0245	0.65	0.53				0.55				0.55	10.0		0.0012
0310	0.66	0.53				0.55				0.55	43.0		0.0039
0315	0.66	0.53				0.55				0.55	49.0		0.0049
0320	0.66	0.53				0.55				0.55	46.0		0.0063
0330	0.66	0.53				0.55				0.55	41.0		0.0084
0345	0.66	0.53				0.55				0.55	25.0		0.0107
0415	0.66	0.53				0.55				0.55	12.0		0.0135
0540	0.68	0.54				0.56				0.56	3.6		0.0142
0550	0.69	0.64				0.65				0.65	3.3		0.0144
0615	0.79	0.64				0.65				0.65	3.0		0.0148
0645	0.87	0.78				0.79				0.79	3.4		0.0151
0650	0.87	0.91				0.90				0.90	4.3		0.0151
0655	0.87	1.15				1.11				1.11	5.2		0.0152
0700	0.87	1.21				1.16				1.16	6.1		0.0154
0705	0.89	1.37				1.24				1.24	16.0		0.0157
0710	0.98	1.42				1.35				1.35	25.0		0.0162
0715	1.15	1.50				1.44				1.44	35.0		0.0176
0730	1.63	1.98				1.92				1.92	248.0		0.0202
0720	1.29	1.60				1.55				1.55	106.0		0.0151
0725	1.41	1.80				1.74				1.74	177.0		0.0245
0735	1.70	2.13				2.06				2.06	374.0		0.0362
0740	1.77	2.30				2.22				2.22	511.0		0.0467
0745	1.94	2.49				2.40				2.40	642.0		0.0598
0750	2.14	2.78				2.68				2.68	861.0		0.0775
0755	2.29	2.88				2.75				2.75	1080.0		0.0996
0800	2.41	3.01				2.91				2.91	1300.0		0.1263
0810	2.65	3.13				3.05				3.05	1358.0		0.1548
0815	2.75	3.22				3.14				3.14	1580.0		0.2177
0820	2.79	3.27				3.19				3.19	1570.0		0.2059
0830	2.87	3.35				3.27				3.27	1560.0		0.3455

STORM RAINFALL AND RUNOFF RECORD									
1962 WATER YEAR									
STATION NO. 06158920									
WILLIAMSON CREEK AT OAK HILL, TEXAS									
STORM OF MAY 13, 1962									
DATE & TIME	LWMS	JWMS	GAGE NUMBER	STUMP OF MAY 13, 1962	ACCUM. WEIGHED PRECIP.		DISCHARGE		ACCUM. RUNOFF
					IN.	PRECIP.	IN	CUFS	
MAY 13									
0845	3.06	3.46				3.40		1450.0	0.4338
0900	3.18	3.54				3.48		1370.0	0.5602
0950	3.26	3.60				3.55		1100.0	0.6955
1000	3.27	3.61				3.56		777.0	0.7910
1050	3.27	3.61				3.56		526.0	0.8395
1045	3.27	3.61				3.56		434.0	0.8756
1115	3.27	3.61				3.56		301.0	0.9073
1150	3.27	3.61				3.56		174.0	0.9386
1215	3.27	3.62				3.56		123.0	0.9760
1315	3.27	3.62				3.56		95.0	1.0063
1415	3.27	3.62				3.56		68.0	1.0384
1600	3.27	3.62				3.56		56.0	1.0698
1800	3.27	3.62				3.56		48.0	1.0973
2000	3.27	3.62				3.56		42.0	1.1209
2200	3.27	3.62				3.56		40.0	1.1416
2400	3.27	3.62				3.56		40.0	1.1711
MAY 14									
0000	3.27	3.62				3.56		40.0	1.1711
0600	3.27	3.62				3.56		30.0	1.2458
1600	3.27	3.62				3.56		22.0	1.2931
2400	3.27	3.62				3.56		17.0	1.3182
MAY 15									
0000	3.27	3.62				3.56		16.0	1.3182
0600	3.27	3.62				3.56		15.0	1.3561
1600	3.27	3.62				3.56		14.0	1.3733
1800	3.27	3.62				3.56		12.0	1.3851
2400	3.27	3.62				3.56		9.6	1.3922

08158930 WILLIAMSON CREEK AT MANCHACA ROAD, AUSTIN, TEX.
(Flood-hydrograph partial-record gage)

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, 8,490 ft³/s June 11, 1981 (gage height, 16.00 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,900 ft³/s May 13 (gage height, 10.33 ft).

STORM RAINFALL AND RUNOFF RECORD										1982 WATER YEAR		
WILLIAMSON CREEK AT MANCHACA ROAD, AUSTIN, TEXAS										ACCUM. DISCHARGE		
STORM OF MAY 13, 1982										IN RUNOFF		
DATE & TIME	1WMS	2WMS	3WMS	U A G E	N U M B E R	PRECIP.	IN.	CFS	IN.	ACCUM.	IN	ACCUM.
MAY 13												
0000	0.0	0.0	0.0	0.0		0.0		1.0	0.0	0.0000		0.0000
0040	0.01	0.01	0.02	0.02		0.01		1.0	0.01	0.0001		0.0001
0115	0.06	0.13	0.10	0.10		0.05		1.1	0.05	0.0001		0.0001
0135	0.10	0.34	0.14	0.14		0.17		2.7	0.17	0.0002		0.0002
0145	0.10	0.36	0.14	0.14		0.15		4.1	0.0002	0.0002		0.0002
0150	0.11	0.36	0.16	0.16		0.15		4.4	0.0003	0.0003		0.0003
0155	0.12	0.53	0.17	0.17		0.24		15.0	0.0004	0.0004		0.0004
0200	0.14	0.62	0.23	0.23		0.25		20.0	0.0005	0.0005		0.0005
0205	0.24	0.66	0.27	0.27		0.35		125.0	0.0014	0.0014		0.0014
0210	0.28	0.81	0.35	0.35		0.43		230.0	0.0025	0.0025		0.0025
0215	0.40	0.92	0.42	0.42		0.54		335.0	0.0052	0.0052		0.0052
0220	0.47	1.10	0.45	0.45		0.62		463.0	0.0059	0.0059		0.0059
0230	0.56	1.44	0.50	0.50		0.78		720.0	0.0173	0.0173		0.0173
0235	0.61	1.57	0.52	0.52		0.82		765.0	0.0225	0.0225		0.0225
0240	0.64	1.61	0.52	0.52		0.85		819.0	0.0281	0.0281		0.0281
0245	0.65	1.73	0.53	0.53		0.89		868.0	0.0369	0.0369		0.0369
0255	0.65	1.84	0.53	0.53		0.91		895.0	0.0460	0.0460		0.0460
0300	0.66	1.85	0.53	0.53		0.92		900.0	0.0521	0.0521		0.0521
0305	0.66	1.85	0.53	0.53		0.92		856.0	0.0608	0.0608		0.0608
0315	0.66	1.85	0.53	0.53		0.92		769.0	0.0739	0.0739		0.0739
0330	0.66	1.85	0.53	0.53		0.92		551.0	0.0851	0.0851		0.0851
0345	0.66	1.85	0.53	0.53		0.92		391.0	0.0931	0.0931		0.0931
0400	0.66	1.87	0.53	0.53		0.92		286.0	0.0989	0.0989		0.0989
0415	0.66	1.87	0.53	0.53		0.92		211.0	0.1032	0.1032		0.1032
0430	0.66	1.87	0.53	0.53		0.92		157.0	0.1064	0.1064		0.1064
0445	0.66	1.87	0.53	0.53		0.92		121.0	0.1101	0.1101		0.1101
0515	0.67	1.89	0.54	0.54		0.94		81.0	0.1126	0.1126		0.1126
0530	0.68	1.85	0.54	0.54		0.94		45.0	0.1135	0.1135		0.1135
0545	0.69	1.89	0.61	0.61		0.97		54.0	0.1144	0.1144		0.1144
0555	0.65	1.90	0.64	0.64		0.98		51.0	0.1150	0.1150		0.1150
0600	0.69	1.91	0.64	0.64		0.98		50.0	0.1156	0.1156		0.1156
0615	0.75	2.04	0.75	0.75		1.10		83.0	0.1173	0.1173		0.1173
0630	0.83	2.10	0.76	0.76		1.13		83.0	0.1150	0.1150		0.1150
0645	0.87	2.14	0.78	0.78		1.16		148.0	0.1220	0.1220		0.1220
0700	0.87	2.15	1.41	1.41		1.24		137.0	0.1244	0.1244		0.1244
0710	0.98	2.15	1.42	1.42		1.40		130.0	0.1257	0.1257		0.1257
0715	1.15	2.15	1.50	1.50		1.50		126.0	0.1270	0.1270		0.1270
0745	1.41	2.20	1.80	1.80		1.72		152.0	0.1285	0.1285		0.1285
0730	1.63	2.22	1.98	1.98		1.88		165.0	0.1296	0.1296		0.1296

1982 WATER YEAR

STORM RAINFALL AND RUNOFF RECORD

SIA. NO. 00158930

WILLIAMSON CREEK AT MANCHACA ROAD, AUSTIN, TEXAS STORM OF MAY 13, 1982

DATE & TIME	1WMS	2WMS	3WMS	GAUGE NUMBER	STORM OF MAY 13, 1982	ACCUM. PRECIP. IN.	DISCHARGE IN	ACCUM. RUNOFF IN.
MAY 13								
0735	1.70	2.26	2.13			1.96	248.0	0.1313
0740	1.77	2.44	2.30			2.05	330.0	0.1336
0745	1.94	2.62	2.45			2.27	413.0	0.1364
0750	2.14	2.71	2.78			2.47	527.0	0.1418
0800	2.41	2.93	3.01			2.71	754.0	0.1454
0805	2.55	3.05	3.15			2.85	859.0	0.1586
0815	2.75	3.47	3.22			3.07	1150.0	0.1707
0820	2.79	3.65	3.27			3.14	1410.0	0.1803
0825	2.85	3.81	3.30			3.22	1620.0	0.1913
0830	2.87	3.85	3.35			3.25	1840.0	0.2163
0845	3.06	4.07	3.46			3.43	2030.0	0.2577
0900	3.18	4.20	3.54			3.54	2070.0	0.2999
0915	3.21	4.28	3.58			3.58	2770.0	0.3564
0930	3.26	4.33	3.60			3.63	3590.0	0.4296
0945	3.27	4.43	3.61			3.66	3900.0	0.5091
1000	3.27	4.43	3.61			3.66	2770.0	0.7008
1100	3.27	4.43	3.61			3.66	2440.0	0.8917
1115	3.27	4.44	3.61			3.66	2210.0	0.9553
1130	3.27	4.44	3.61			3.66	1830.0	1.0153
1200	3.27	4.44	3.61			3.66	1600.0	1.0805
1215	3.27	4.44	3.62			3.66	1080.0	1.1356
1300	3.27	4.44	3.62			3.66	769.0	1.1551
1330	3.27	4.44	3.62			3.66	649.0	1.1723
1345	3.27	4.44	3.62			3.66	560.0	1.1838
1400	3.27	4.44	3.62			3.66	491.0	1.2038
1415	3.27	4.44	3.62			3.66	366.0	1.2259
1500	3.27	4.44	3.62			3.67	277.0	1.2581
1600	3.27	4.45	3.62			3.67	153.0	1.2758
1730	3.27	4.45	3.62			3.67	140.0	1.2983
1845	3.27	4.45	3.62			3.67	104.0	1.3206
2045	3.27	4.45	3.62			3.67	74.0	1.3364
2400	3.27	4.45	3.62			3.67		
MAY 14								
0000	3.27	4.45	3.62			3.67	74.0	1.3364
0400	3.27	4.45	3.62			3.67	50.0	1.3588
0800	3.27	4.45	3.62			3.67	39.0	1.3715
1200	3.27	4.45	3.62			3.67	37.0	1.3836
1600	3.27	4.45	3.62			3.67	37.0	1.3956
2000	3.27	4.45	3.62			3.67	35.0	1.4071
2400	3.27	4.45	3.62			3.67	32.0	1.4123

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 Nuckles 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.--7 years, 9.54 ft³/s (0.270 m³/s), 4.69 in/yr (119 mm/yr), 6,910 acre-ft/yr (8.52 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,100 ft³/s (399 m³/s) June 11, 1981, gage height, 17.25 ft (5.258 m); 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.--Maximum discharge, 2,830 ft³/s (80.1 m³/s) May 13 at 1215 hours, gage height, 9.69 ft (2.954 m), no other peak above base of 500 ft³/s (14.2 m³/s); minimum daily, 0.22 ft³/s (0.006 m³/s) Aug. 10.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.54	4.7	2.2	.93	1.1	1.2	1.2	1.7	1.7	.72	.38	.72
2	.54	1.6	2.0	1.0	1.1	1.0	.98	1.7	1.8	.57	.32	.72
3	.54	1.2	1.9	.93	.94	1.0	.93	1.7	2.0	.37	.38	.75
4	.54	.96	1.9	.82	.91	1.0	.93	1.7	2.0	.33	.38	.87
5	.54	.93	1.7	.89	.93	.93	1.1	1.8	2.0	.26	.63	.72
6	56	.93	1.8	.93	.95	1.0	1.0	15	1.9	.33	.63	.78
7	12	.84	1.7	.80	1.1	1.2	1.0	3.0	1.9	.44	.72	.82
8	2.5	6.0	1.6	.77	1.0	1.2	1.0	1.9	2.1	.52	1.1	.82
9	16	2.3	1.6	.91	.97	1.0	1.5	1.7	2.3	.62	.30	.81
10	2.0	1.3	1.6	.77	.94	1.2	3.2	1.7	2.4	.54	.22	.72
11	1.1	.93	1.6	.76	.97	1.0	1.8	1.2	2.3	.50	.23	.72
12	.82	.82	1.4	1.9	1.0	1.2	1.4	2.2	13	.45	.26	.71
13	1.5	.66	1.2	1.4	1.0	1.2	1.2	613	2.2	.46	.29	.72
14	2.5	.72	1.2	1.2	1.1	1.2	1.2	26	1.3	.32	.31	1.0
15	1.4	1.0	1.0	1.1	1.4	1.2	1.3	12	1.4	.39	.31	1.0
16	.88	1.3	1.0	.96	1.2	1.2	1.3	9.3	7.6	.32	.49	1.1
17	.75	.86	1.0	1.1	1.1	1.2	1.3	18	1.7	.34	.26	1.1
18	.67	1.0	1.2	1.0	1.1	1.2	1.4	4.9	1.0	.32	.26	1.2
19	.63	1.3	1.2	.96	1.2	1.3	1.4	3.5	.96	.32	.24	1.2
20	.66	1.4	.96	1.0	1.3	1.2	13	3.2	1.1	.32	.24	1.4
21	.79	1.5	.92	1.1	1.4	1.2	3.8	2.9	1.1	.32	.23	1.2
22	3.8	1.6	.89	1.0	1.3	2.0	68	2.7	1.6	.32	.24	1.1
23	3.6	1.6	.93	.95	1.3	6.5	15	2.5	2.3	.32	.28	1.2
24	1.2	1.6	.82	.98	1.2	2.4	14	16	1.1	.26	.30	1.2
25	.91	1.6	.78	.96	1.3	1.3	4.6	3.4	1.8	.26	.35	1.2
26	.73	1.7	.82	.93	4.0	.95	2.8	2.4	1.0	.26	.42	1.3
27	.63	1.7	.82	.97	1.9	3.0	2.1	2.1	25	.32	.43	1.3
28	.63	1.6	.82	1.2	1.3	2.2	1.9	2.1	2.1	.32	.48	2.0
29	.63	1.8	.82	1.1	---	1.6	1.8	2.3	.81	.32	.52	2.4
30	.80	2.1	.82	2.9	---	1.4	1.7	2.2	.58	.38	.88	1.2
31	12	---	1.0	1.8	---	1.3	---	1.9	---	.38	.90	---
TOTAL	127.83	47.55	39.20	34.02	35.01	46.48	153.84	765.7	90.05	11.90	12.98	31.98
MEAN	4.12	1.59	1.26	1.10	1.25	1.50	5.13	24.7	3.00	.38	.42	1.07
MAX	56	6.0	2.2	2.9	4.0	6.5	68	613	25	.72	1.1	2.4
MIN	.54	.66	.78	.76	.91	.93	.93	1.2	.58	.26	.22	.71
CFSM	.15	.06	.05	.04	.05	.05	.19	.90	.11	.01	.02	.04
IN.	.17	.06	.05	.05	.05	.06	.21	1.03	.12	.02	.02	.04
AC-FT	254	94	78	67	69	92	305	1520	179	24	26	63

CAL YR 1981 TOTAL 9544.30 MEAN 26.1 MAX 3260 MIN .08 CFSM .95 IN 12.86 AC-FT 18930
WTR YR 1982 TOTAL 1396.54 MEAN 3.83 MAX 613 MIN .22 CFSM .14 IN 1.88 AC-FT 2770

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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (FTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	
APR 23...	1235	7.9	299	7.7	14.0	35	40	8.8	86	3.0	42000	62000
MAY 13...	1300	33	156	7.9	18.0	120	1000	9.3	100	7.2	110000	410000
JUL 26...	1115	.26	794	7.9	26.0	<1	.70	5.3	66	1.6	720	1200

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)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS Cl)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SiO2)
APR 23...	120	24	44	3.3	7.7	.3	3.2	100	23	10	.3	6.0
MAY 13...	76	14	26	2.6	2.1	.1	3.3	62	14	3.4	.2	6.8
JUL 26...	290	0	93	15	48	1.3	3.6	320	21	57	.5	15

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
APR 23...	158	38	5	.64	.040	.68	.350	.75	1.10	.210	5.7
MAY 13...	96	382	75	.16	.240	.40	.400	5.3	5.70	1.40	33
JUL 26...	446	5	<2	1.0	.360	1.4	.840	.86	1.70	.020	3.5

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 23...	1235	2	39	<3	<10	1	23
JUL 26...	1115	3	130	<1	<10	<1	<3

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 23...	1	3	<.1	<1	<1	<12
JUL 26...	<1	24	<.1	<1	<1	4

Table 13.--Rainfall and runoff data for selected continuous-record gaging stations in the Austin urban study area, 1982 water year

Station	Weighted-mean rainfall (inches)	Total runoff (inches)	Ratio of runoff to rainfall
Bull Creek at Loop 360, near Austin, Tex. (08154700)	30.85	4.68	0.15
Barton Creek at State Highway 71 near Oak Hill, Tex. (08155200)	29.60	3.32	.11
Barton Creek at Loop 360, Austin, TX (08155300)	29.49	1.82	.06
Shoal Creek at Northwest Park, Austin, TX (08156700)	30.49	7.55	.25
Boggy Creek at U.S. Hwy. 183, Austin, TX (08158050)	26.19	3.40	.13
Walnut Creek at Webberville Road, Austin, TX (08158600)	30.10	4.94	.16
Onion Creek near Driftwood, TX (08158700)	25.70	2.61	.10
Onion Creek at Buda, TX (08158800)	24.10	1.48	.06
Bear Creek at Farm Road 1826 near Driftwood, TX (08158810)	28.21	3.17	.11
Slaughter Creek at Farm Road 1826 near Austin, Tex. (08158840)	34.56	4.02	.12

Table 13.--Rainfall and runoff data for selected continuous-record gaging stations in the Austin urban study area, 1982 water year--Continued

Station	Weighted-mean rainfall (inches)	Total runoff (inches)	Ratio of runoff to rainfall
Williamson Creek at Oak Hill, Austin, Tex. (08158920)	28.90	3.01	0.10
Williamson Creek at Jimmy Clay Road, Austin, TX (08158970)	30.63	1.88	.06

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

Table 14.--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.	Apr. 23	0810	20	Apr. 23	0015	26
		May 13	(3 samples)	--	May 13	0900	13,700
08155200	Barton Creek at S.H. 71 near Oak Hill, Tex.	Oct. 6	1115	2,220	Oct. 6	1300	3,880
		Apr. 23	1340	31	Apr. 23	0345	33
08155300	Barton Creek at Loop 360, Austin, Tex.	Oct. 6-7	(6 samples)	--	Oct. 6	1715	5,240
		May 13-14	(5 samples)	--	May 13	1600	7,740
08156800	Shoal Creek at 12th Street, Austin, Tex.	Apr. 22	1145	661	Apr. 22	1030	1,740
08158050	Boggy Creek at U.S. Hwy. 183, Austin, Tex.	Mar. 23	(4 samples)	--	Mar. 23	1315	301
		Apr. 22-23	(6 samples)	--	Apr. 22	0645	707
		May 13	(2 samples)	--	May 13	0915	971
		May 24	(6 samples)	--	May 24	0800	671
		June 27	(6 samples)	--	June 27	0200	693
08158200	Walnut Creek at Dessau Road Austin, Tex.	Oct. 6	1315	76	Oct. 6	a/	--
		Apr. 22	1315	110	Apr. 22	0445	499
		May 13	0930	5,660	May 13	1830	7,150
08158600	Walnut Creek at Webber-ville Road, Austin, Tex.	Oct. 6	1130	1,300	Oct. 6	1030	1,800
		Apr. 22	1515	334	Apr. 22	1200	1,000
		May 13	1040	9,100	May 13	1015	9,540

See footnotes at end of table.

Table 14.--Peak discharges associated with water-quality samples collected during storms--continued

Station no.	Station name	Water-quality sample			Peak flow		
		Date	Time	Instantaneous flow (ft ³ /s)	Date	Time	(ft ³ /s)
08158700	Onion Creek near Driftwood, Tex.	Apr. 22	1335	12	Apr. 22	1245	12
08158800	Onion Creek at Buda, Tex.	Oct. 6-7 May 13	(4 samples) 1100	-- 8,320	Oct. 6 May 13	1630 1230	7,490 9,390
08158810	Bear Creek below F.M. Road 1826 near Driftwood, Tex.	Apr. 22	1435	5.4	Apr. 22	1215	6.6
08158825	Little Bear Creek at F.M. Road 1626 near Driftwood, Tex.	May 13	1120	5,310	May 13	835	2,170
08158860	Slaughter Creek at F.M. Road 2304 near Austin, Tex.	May 13	1000	391	May 13	780	3,370
08158920	Williamson Creek at Oak Hill, Tex.	Oct. 6 Apr. 22 May 13 Aug. 18	1040 1510 0915 (3 samples)	23 16 1,260 --	Oct. 6 Apr. 22 May 13 Aug. 18	0800 1015 0815 1900	123 97 1,580 619

See footnotes at end of table.

Table 14.--Peak discharges associated with water-quality samples collected during storms--continued

Station no.	Station name	Water-quality sample			Peak flow		
		Date	Time	Instantaneous flow (ft ³ /s)	Date	Time	(ft ³ /s)
08158970	Williamson Creek at Jimmy Clay Road, Austin, Tex.	Apr. 23	1235	7.9	Apr. 22	1245	296
		May 13	1300	33	May 13	1215	2,830
08159000	Onion Creek at U.S. Hwy. 183 near Austin, Tex.	Apr. 23	1155	148	Apr. 23	0630	217
		May 13	1200	8,180	May 13	1730	13,300

a/ Unknown.

AUSTIN URBAN HYDROLOGY STUDY

TABLE 15 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

DATE	1SUL	2BUL	1SHL	2SHL	1BOG	1WLN	2WLN	3WLN	4WLN	5WLN
OCT										
3	0.24	0.47	0.21	0.14	0.05	0.35	0.15	0.02	0.09	0.02
6	4.27	3.64	3.45	3.44	3.66	4.25	3.77	3.55	3.70	3.51
7	0.57	0.54	0.45	0.55	0.68	0.54	0.62	0.81	0.73	0.80
8	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.00
9	0.10	0.11	0.20	*0.23	0.70	0.16	0.16	0.40	0.22	*0.50
11	0.06	0.03	0.07	*0.08	0.01	0.07	0.01	0.01	0.01	*0.01
12	0.00	0.00	0.03	*0.03	0.01	0.03	0.07	0.00	0.02	0.00
13	0.12	0.17	0.84	*0.97	0.20	0.55	0.11	0.22	0.14	*0.27
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.01	0.00	0.00	0.00	0.38	0.00	0.01	0.06	0.00	*0.07
18	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	*0.01
21	0.07	0.06	0.09	0.12	0.20	0.05	0.07	0.10	0.12	*0.12
22	0.45	0.39	0.35	0.39	0.37	0.43	0.41	0.35	0.46	*0.43
23	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00	*0.01
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
25	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
30	0.31	0.38	*0.52	0.47	0.16	0.46	0.15	0.06	0.35	*0.07
31	0.72	0.60	*0.54	0.49	0.52	0.53	0.93	0.42	0.49	*0.52
MTOT	6.93	6.41	5.85	7.01	6.95	7.67	6.51	6.02	6.37	6.54
NOV										
1	0.01	0.01	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
8	0.65	0.55	0.67	0.62	0.64	0.64	0.62	0.80	0.57	0.66
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
22	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
23	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.1	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.01
29	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00
30	0.13	0.09	0.09	0.04	0.05	0.13	0.14	0.06	0.05	0.06
MTOT	0.82	0.65	0.77	0.68	0.78	0.75	0.77	0.82	0.63	0.74

MTOT = Monthly Totals

* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 15 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

DATE	1BUL	2BUL	1SHL	2SHL	1BOG	1WLN	2WLN	3WLN	4WLN	5WLN
DEC										
6	0.06	0.05	0.06	0.05	0.06	0.06	0.07	0.07	0.05	0.09
7	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.01	0.01	0.01
8	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.01
9	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01
10	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
11	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
14	0.01	0.00	0.00	0.00	0.02	0.02	0.01	0.00	0.00	0.01
15	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01
18	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
20	0.05	0.07	0.08	0.08	0.07	0.12	0.06	*0.06	0.06	0.09
21	0.01	0.00	0.01	0.00	0.00	0.02	0.03	*0.01	0.02	0.01
30	0.11	0.12	0.13	0.13	0.16	0.12	0.13	*0.13	0.14	0.20
31	0.01	0.01	0.01	0.02	0.01	0.01	0.00	0.00	0.02	0.00
MTOT	0.29	0.26	0.33	0.30	0.34	0.39	0.34	0.30	0.31	0.44
CTOT	43.75	47.44	50.11	47.52	45.48	57.38	48.25	46.51	49.45	49.36
JAN										
2	0.02	0.01	0.03	0.00	0.01	0.01	0.02	*0.02	0.02	0.03
7	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.00
11	0.00	0.00	0.00	0.13	0.00	*0.49	0.44	0.00	0.00	0.00
12	0.43	0.40	0.44	0.36	0.41	*0.02	0.02	*0.45	*0.45	0.46
14	0.15	0.01	0.05	0.06	0.01	*0.00	0.00	*0.03	*0.03	0.03
17	0.00	0.00	0.00	0.00	0.01	*0.10	0.09	*0.01	*0.01	0.01
19	0.01	0.00	0.00	0.00	0.00	0.00	0.00	*0.00	*0.00	0.00
20	0.06	0.02	0.03	0.03	0.11	0.00	0.00	*0.09	*0.10	0.10
22	0.00	0.00	0.01	0.01	0.00	0.00	0.00	*0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
30	0.44	0.48	0.39	0.42	0.21	0.41	0.31	0.30	0.25	0.24
MTOT	1.11	0.92	0.96	1.01	0.77	1.03	0.88	0.91	0.90	0.98

MTOT = Monthly totals

CTOT = Calendar year totals

* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 15 DAILY AND MONTHLY RAINFALL SUMMARY FOR SADES NORTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

GAGE NUMBER

DATE	1RUL	2RUL	1SHL	2SHL	1EOG	1WLN	2WLN	3WLN	4WLN	SWLN
FEB										
2	0.04	0.02	0.07	0.02	0.08	0.03	*0.02	0.10	0.04	0.11
6	0.02	0.02	0.00	0.12	0.00	0.01	*0.01	0.01	0.00	0.00
7	0.00	0.00	0.00	0.00	0.01	0.02	*0.02	0.00	*0.01	0.01
8	0.02	0.00	0.00	0.00	0.01	0.01	*0.01	0.01	*0.01	0.01
10	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	*0.02	0.02
20	0.15	0.14	0.47	*0.41	0.13	0.15	0.17	0.47	0.52	0.32
24	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.52	0.56	0.57	*0.48	0.32	0.61	0.48	0.24	0.52	0.25
26	0.19	0.20	0.19	*0.16	0.19	0.22	0.16	0.23	0.22	0.20
27	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.02
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
MTOT	1.06	0.95	1.32	1.19	0.76	1.06	0.98	1.06	1.35	0.94
MAR										
6	0.17	0.18	0.21	*0.16	0.07	0.29	0.25	0.12	0.15	0.10
8	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	0.01	0.00	0.00	0.00	0.00	0.01	0.00
13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
14	0.03	0.05	0.25	0.07	0.01	0.05	0.14	0.01	0.02	0.03
15	0.02	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.01	0.01
16	0.01	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00
21	0.02	0.00	0.01	0.00	0.00	0.01	0.02	0.00	0.00	0.00
22	0.02	0.07	0.10	0.11	0.15	0.06	0.06	0.11	0.11	0.13
23	0.30	0.28	0.37	0.44	0.64	0.40	0.46	0.41	0.54	0.38
24	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01
25	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.08	0.10	0.13	0.13	0.16	0.14	0.15	0.13	0.16	0.17
27	0.37	0.39	0.37	0.28	0.30	0.51	0.50	0.29	0.31	0.27
28	0.03	0.02	0.03	0.00	0.02	0.05	0.02	0.01	0.02	0.01
29	0.19	0.15	0.09	0.06	0.04	0.16	0.07	0.01	0.07	0.06
30	0.04	0.04	0.08	0.04	0.06	0.06	0.07	0.05	0.08	0.11
31	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	1.51	1.30	1.71	1.51	1.47	1.77	1.76	1.16	1.50	1.28

MTOT = Monthly totals

* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 15 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

DATE	1EUL	2EUL	15SHL	25SHL	18CG	1WLN	2WLN	3WLN	4WLN	5WLN
GAGE NUMBER										
APR										
1	0.00	*0.00	0.00	0.00	0.02	0.00	0.01	0.01	0.01	0.04
2	0.00	*0.01	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.01
7	0.01	*0.01	0.00	0.00	0.02	0.01	0.01	0.01	0.01	0.02
8	0.02	*0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00
9	0.03	*0.02	0.13	0.07	0.27	0.03	0.06	0.05	0.12	0.07
10	0.01	*0.04	0.04	0.01	0.00	0.05	0.05	0.01	0.03	0.02
11	0.00	*0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
12	0.01	*0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
14	*0.00	*0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01
16	*0.00	*0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00
17	*0.00	*0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
18	*0.02	*0.01	0.01	0.01	0.03	0.02	0.01	0.01	0.01	0.03
19	*0.18	*0.11	0.28	0.25	0.01	0.16	0.16	0.05	0.32	0.08
20	*1.20	*0.86	1.18	0.71	0.76	1.12	1.07	0.86	0.89	0.87
21	0.12	0.11	0.18	0.15	0.25	*0.12	0.12	0.21	0.13	0.23
22	1.96	2.05	2.50	2.14	2.24	*2.29	2.31	2.31	2.81	2.15
23	0.03	0.00	0.03	0.00	0.12	*0.06	0.06	0.05	0.03	0.04
24	0.69	0.78	0.72	0.65	0.50	*1.11	1.12	0.67	0.64	0.62
25	0.00	0.01	0.00	0.01	0.01	*0.01	0.01	0.01	0.03	0.01
MTOT	4.28	4.02	5.08	4.03	4.26	5.01	5.08	4.26	5.06	4.20
MAY										
5	0.02	0.01	0.00	0.03	0.02	*0.01	0.01	0.02	0.01	0.03
6	1.17	1.16	0.70	0.43	0.95	*1.04	1.05	0.89	1.11	0.97
10	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00
11	0.01	0.01	0.01	0.02	0.01	0.00	0.00	0.01	0.01	0.00
12	0.10	0.09	0.13	0.18	0.16	0.08	0.12	0.12	0.14	0.15
13	5.37	5.48	5.47	*5.47	*5.22	6.26	5.15	4.09	5.23	4.40
17	0.46	0.25	*0.70	0.00	0.24	0.20	0.05	*0.12	0.17	0.12
18	0.00	0.00	0.00	0.68	0.00	0.00	0.00	*0.00	0.01	0.00
21	0.00	0.00	0.00	0.00	0.02	0.00	0.00	*0.00	0.01	0.00
22	0.44	0.15	*0.50	0.56	0.00	0.01	0.01	*0.18	0.15	0.18
23	0.01	0.02	0.02	0.01	0.00	0.00	0.01	*0.01	0.01	0.01
24	0.86	0.46	*0.90	0.95	0.67	0.78	0.95	*0.75	0.68	0.73
25	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
26	0.02	0.02	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	0.02	0.00	0.00	0.00	0.00	0.00
MTOT	8.46	7.66	8.43	8.35	5.93	8.38	7.35	6.18	7.54	6.59

MTOT = Monthly totals
* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 15 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

GAGE NUMBER

DATE	1BUL	2BUL	1SHL	2SHL	1BGG	1WLN	2WLN	3WLN	4WLN	5WLN
JUNE										
3	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
12	*0.92	0.89	0.78	0.79	0.77	0.84	0.68	1.13	1.03	0.86
13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
16	*0.56	0.54	0.55	0.51	0.66	0.45	0.44	0.67	0.43	0.63
22	*0.24	0.23	0.07	0.14	0.14	0.31	0.21	0.07	0.04	0.12
23	0.01	0.01	0.00	0.02	0.01	0.00	0.00	0.01	0.00	0.00
25	0.27	0.21	0.18	0.18	0.08	0.17	0.21	0.16	0.18	0.10
26	1.50	1.46	1.12	1.57	0.90	1.03	0.69	0.95	1.26	0.96
27	0.01	0.04	0.04	0.04	0.16	0.02	0.02	0.07	0.08	0.04
28	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.19	0.00	0.00
30	0.02	0.00	0.00	0.00	0.04	0.11	0.31	0.52	0.24	0.41
MTOT	3.53	3.38	2.74	3.28	2.76	2.93	2.56	3.77	3.26	3.12
JULY										
21	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.04	0.61	0.53	0.55	0.11	0.00	0.00	0.00	0.00	0.00
23	0.12	0.01	0.10	0.02	0.00	0.00	0.00	0.00	*0.54	0.13
MTOT	0.17	0.63	0.63	0.57	0.11	0.00	0.00	0.00	0.54	0.13

MTOT = Monthly totals

* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 15 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

DATE	1BUL	2BUL	1SHL	2SHL	1BOG	1WLN	2WLN	3WLN	4WLN	5WLN
AUG										
8	0.55	0.31	0.34	0.20	0.16	0.44	0.73	0.30	*0.10	0.19
9	0.08	0.04	0.02	0.09	0.20	0.00	0.04	0.37	*0.15	0.29
10	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
18	1.44	0.05	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00
19	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.29	0.00	0.00	0.55	0.46	0.00	0.00	0.00	0.03	0.52
MTOT	2.40	0.41	0.36	0.84	0.82	0.56	0.77	0.69	0.28	1.00
SEPT										
3	0.42	0.29	0.24	0.70	0.59	0.57	1.27	1.25	0.66	0.64
4	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.02	0.00	0.01
13	0.16	0.15	0.19	0.14	0.33	0.78	0.36	0.57	0.42	0.59
14	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.01
16	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
19	1.73	0.83	1.36	1.03	0.54	0.96	1.50	1.20	1.42	0.94
20	0.16	0.18	0.21	0.34	0.19	0.23	0.20	0.21	0.22	0.14
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
30	0.06	0.06	0.07	0.00	0.19	0.03	0.03	0.00	0.15	0.17
MTOT	2.54	1.54	2.08	2.22	1.84	2.58	3.38	3.39	2.89	2.50
WTOT	32.90	28.13	31.26	30.79	26.19	32.16	30.28	28.62	30.63	28.16

MTOT = Monthly totals
 WTOT = Water year totals
 * = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 16 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

DATE	GAGE NUMBER															
	1BEE	1BAR	2BAR	3BAR	1BOL	1CON	2CON	1BER	2BER	1LBR	1SLA	2SLA	1BGS	2WMS	3WMS	
OCT																
3	0.62	0.00	0.45	0.12	*0.97	0.00	0.00	0.03	0.00	0.00	0.00	0.28	1.02	0.38	0.99	0.11
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.01
6	3.03	5.20	2.67	2.86	*2.56	2.32	1.20	3.67	2.25	2.78	4.20	1.50	2.59	1.78	2.56	3.34
7	0.87	0.93	1.04	0.86	*0.68	*0.59	0.17	0.59	0.65	0.47	0.54	0.80	0.00	0.93	0.68	0.69
8	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	0.00	0.00	0.00
9	0.10	0.04	0.09	0.05	*0.73	*0.08	0.33	0.08	0.70	0.83	0.08	0.70	0.73	0.30	0.73	0.10
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.01	0.00	0.00	0.00	0.00
11	0.13	0.18	0.38	0.35	*0.06	*0.12	0.08	0.12	0.71	0.53	0.09	0.49	0.10	0.57	0.09	0.83
12	0.00	0.16	0.02	0.30	0.00	*0.18	0.02	0.18	0.06	0.13	0.41	*0.25	0.00	0.01	0.00	0.01
13	0.05	0.04	0.06	0.16	*0.13	*0.08	0.09	0.08	0.02	0.21	0.27	*0.00	0.00	0.04	0.01	0.08
14	0.00	0.00	0.00	0.00	*0.42	0.00	0.06	0.00	0.14	0.39	0.00	0.00	0.45	0.15	0.42	0.01
16	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	0.00	0.00
17	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	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	0.00
21	0.11	*0.13	0.13	0.12	0.13	*0.11	0.05	0.11	0.12	0.14	0.12	0.12	0.13	0.14	0.13	0.12
22	0.45	*0.66	0.40	0.45	0.50	*0.57	0.19	0.57	*0.70	0.50	0.73	0.57	0.64	0.63	0.73	0.53
23	0.01	*0.03	0.00	0.01	*0.02	0.01	0.02	*0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.01
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
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	*0.01	0.00	0.01
26	0.00	0.00	0.00	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
30	0.22	*0.14	0.25	0.05	0.38	0.21	0.18	0.12	0.44	0.43	*0.27	0.27	0.89	*0.55	0.42	0.62
31	0.58	*0.66	0.83	0.80	0.73	0.45	0.37	0.57	0.70	0.36	*1.27	0.58	0.54	*0.64	0.97	0.71
MTOT	6.19	8.17	6.32	6.13	7.44	4.73	2.76	6.14	6.45	6.83	8.29	5.58	7.10	6.14	7.74	7.18
NOV																
1	0.01	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	0.01	0.01
2	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
3	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
4	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	0.01
8	0.75	0.53	0.63	0.81	0.56	0.53	0.55	0.74	0.58	0.75	0.73	0.57	0.54	0.48	0.62	0.53
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	0.01	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	0.01
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.01	0.01	0.01	0.02	0.00	0.00	0.02	0.01	0.04
29	0.00	0.00	0.01	0.02	0.01	0.00	0.04	0.03	0.02	0.03	0.05	0.01	0.00	0.02	0.01	0.02
30	0.07	0.17	0.10	0.11	0.11	0.10	0.25	0.10	0.08	0.22	0.13	0.08	0.11	0.08	0.14	0.14
MTOT	0.83	0.70	0.76	0.94	0.71	0.63	0.84	0.90	0.70	1.02	0.93	0.67	0.66	0.61	0.80	0.76

MTOT = Monthly totals
* = estimated

A U S T I N U R B A N H Y D R O L O G Y S T U D Y

TABLE 16 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

DATE	1BEE	1BAR	2BAR	3BAR	1BOL	1-ON	2-ON	1BER	2BER	1LBR	1SLA	2SLA	1BGS	2WMS	3WMS
DEC															
5	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	0.01
6	0.05	0.07	0.05	0.05	0.06	0.05	0.07	0.06	0.07	0.06	0.05	0.07	0.09	0.07	0.04
7	0.01	0.02	0.01	0.01	0.03	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.01	0.02
8	0.00	0.00	0.00	0.00	0.00	0.01	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	0.01	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	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01
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	0.04	0.00	0.00
14	0.01	0.00	0.00	0.01	0.03	0.05	0.13	0.04	0.06	0.08	0.00	0.00	0.04	0.03	0.02
15	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00
16	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
19	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
20	0.06	0.02	0.09	0.07	0.09	0.05	0.10	0.12	0.09	0.10	0.08	0.08	0.08	0.13	0.10
21	0.01	0.02	0.01	0.01	0.02	0.00	0.00	0.01	0.01	0.00	0.02	0.02	0.01	0.01	0.01
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	0.00	0.00
30	0.12	0.16	0.14	0.16	0.17	0.10	0.16	0.14	0.17	0.15	0.13	0.17	0.16	0.16	0.14
31	0.01	0.01	0.01	0.00	0.02	0.00	0.01	0.01	0.01	0.03	0.01	0.02	0.01	0.01	0.01
MTOT	0.27	0.30	0.31	0.31	0.43	0.29	0.50	0.44	0.45	0.46	0.37	0.42	0.45	0.42	0.37
CTOT	54.74	44.10	51.95	47.74	46.83	41.69	23.09	51.23	51.25	52.77	59.35	46.13	47.40	52.04	57.27
JAN															
2	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	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	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	0.00	0.01	0.00	0.00	0.00
8	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
11	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
12	0.44	0.39	0.43	0.35	0.43	0.32	0.70	0.41	0.58	0.59	0.42	0.51	0.52	0.44	0.45
13	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.03	0.03	0.04	0.00	0.00	0.00	0.00	0.00
14	0.07	0.00	0.04	0.00	0.08	0.00	0.04	0.00	0.00	0.05	0.01	0.01	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	0.00
19	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
20	0.03	0.05	0.03	0.02	0.03	0.02	0.02	0.06	0.03	0.03	0.06	0.04	0.07	0.05	0.04
21	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.00	0.02	0.01
25	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
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	0.01
29	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
30	0.41	0.42	0.26	0.34	0.40	0.52	0.56	0.36	0.22	0.34	0.55	0.32	0.53	0.41	0.50
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00
MTOT	0.96	0.86	0.77	0.82	0.95	0.87	1.19	0.88	1.00	1.20	1.08	0.95	1.15	0.96	1.08

MTOT = Monthly totals
 CTOT = Calendar year totals
 * = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 16 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

DATE	GAGE NUMBER														MTOT		
	1BEE	1BAR	2BAR	3BAR	1BDL	1-DN	2-DN	1BER	2BER	1LBR	1SLA	2SLA	1RGS	1WMS		2WMS	3WMS
FEB																	
2	0.04	0.03	0.04	0.07	0.10	0.17	0.14	0.10	0.06	0.12	0.09	0.05	0.06	0.03	0.07	0.07	0.07
3	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.01	0.02	0.02	0.00	0.00	0.00	0.01	0.00	0.01	0.01
4	0.01	0.02	0.01	0.04	0.03	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.03
5	0.00	0.00	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	0.00
6	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	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	0.00	0.00	0.00	0.00
8	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	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	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	0.00	0.00
11	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	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	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	0.00	0.00	0.00	0.00
14	0.08	0.12	0.05	0.10	0.02	0.10	0.01	0.06	0.02	0.00	0.08	0.01	0.02	0.03	0.02	0.00	0.00
15	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	0.00	0.00	0.00
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	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	0.00	0.00	0.00
18	0.04	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	0.00	0.00
19	0.14	0.43	0.35	0.14	0.73	0.21	0.09	0.53	0.21	0.26	0.88	0.39	0.37	0.72	0.54	0.56	0.56
20	0.44	0.16	0.28	0.32	0.50	0.45	0.05	0.46	0.42	0.36	0.85	0.41	0.38	0.58	0.56	0.48	0.48
21	0.00	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	0.00	0.00	0.00
22	0.13	0.08	0.13	0.15	0.16	0.08	0.04	0.10	0.11	0.13	0.12	0.13	0.12	0.15	0.18	0.14	0.14
23	0.27	0.29	0.22	0.29	0.42	0.22	0.12	0.24	0.26	0.28	0.28	0.35	0.33	0.41	0.49	0.30	0.30
24	0.13	0.05	0.17	0.07	0.06	0.08	0.04	0.14	0.12	0.12	0.12	0.05	0.02	0.03	0.07	0.07	0.07
25	0.07	0.02	0.05	0.04	0.04	0.00	0.01	0.04	0.05	0.02	0.04	0.05	0.03	0.07	0.05	0.08	0.08
26	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	0.00
MTOT	1.45	1.33	1.45	1.35	2.02	1.29	0.51	1.55	1.32	1.52	2.55	1.49	1.44	2.32	2.02	2.02	2.02

MTOT = Monthly totals
* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 16 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

DATE	GAGE NUMBER																
	1BEE	1BAR	2BAR	3BAR	1BOL	1-ON	2-ON	1BER	2BER	1LBR	1SLA	2SLA	1BGS	1WMS	2WMS	3WMS	
APR																	
1	0.01	0.00	0.01	0.00	0.00	0.00	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.02
4	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	0.00	0.00	0.00
7	0.01	0.00	0.01	0.01	0.01	0.01	*0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.03	0.02	0.02	0.02
8	0.00	0.00	0.00	0.01	0.01	0.01	*0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01
9	0.12	0.30	0.18	0.20	0.35	0.09	0.47	*0.22	0.23	0.22	0.57	0.23	0.31	0.45	0.47	0.27	0.27
10	0.01	0.01	0.00	0.00	*0.01	0.01	0.07	*0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.02	0.00	0.00
11	0.00	0.00	0.00	0.01	0.00	0.01	0.00	*0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01
12	0.00	0.00	0.02	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	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	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00
18	0.02	0.00	0.01	0.02	*0.03	0.01	0.04	*0.02	0.02	0.04	0.02	0.02	0.03	0.04	0.04	*0.04	0.04
19	0.24	0.02	0.02	0.32	*0.10	*0.02	0.01	*0.02	0.02	0.02	0.02	0.03	0.01	0.02	0.02	*0.02	*0.02
20	0.61	0.86	0.78	0.72	1.00	*0.99	0.86	*1.09	1.11	1.40	0.86	1.01	0.96	1.04	0.99	0.81	0.81
21	0.21	0.12	0.24	0.26	0.00	*0.12	0.07	*0.08	0.08	0.08	0.26	0.02	0.00	0.17	0.02	0.02	0.35
22	2.06	1.78	1.96	1.84	2.54	*2.12	1.50	*1.80	1.84	1.73	2.43	1.96	2.09	2.30	2.50	2.12	2.12
23	0.02	0.10	0.02	0.01	0.00	*0.02	0.02	*0.01	0.01	0.01	0.02	0.01	0.01	0.04	0.03	0.03	0.03
24	0.58	0.59	0.56	0.62	0.52	*0.68	0.42	*0.53	0.54	0.49	0.52	0.55	0.50	0.54	0.52	0.55	0.55
25	0.00	0.00	0.00	0.01	0.00	0.00	0.00	*0.01	0.01	0.02	0.00	0.02	0.00	0.01	0.03	0.00	0.00
26	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	0.01
28	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	3.90	3.80	3.81	4.03	4.61	4.09	3.54	3.82	3.91	4.09	4.77	3.91	3.98	4.68	4.82	4.27	4.27
MAY																	
1	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	0.00	0.00	0.00
5	0.06	0.04	0.08	0.11	0.00	*0.04	0.00	0.05	0.03	0.01	0.11	0.07	0.07	0.04	0.02	0.03	0.03
6	0.99	1.16	1.10	0.97	0.69	*0.96	*0.96	1.09	1.09	1.14	0.42	1.03	0.79	0.46	0.98	0.86	0.86
10	0.01	0.00	0.00	0.01	0.00	*0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00
11	0.08	0.18	0.10	0.07	0.01	*0.06	0.07	0.07	0.07	0.08	0.33	0.10	0.02	0.01	0.03	0.01	0.01
12	0.27	0.27	0.34	0.11	0.16	*0.26	0.47	0.29	0.38	0.57	0.12	0.10	0.21	0.26	0.23	0.43	0.43
13	*4.50	3.48	*4.50	4.43	*3.80	*3.19	2.81	3.63	*3.58	4.21	3.66	3.57	3.98	3.27	4.45	3.62	3.62
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	0.00	0.00	0.00	0.00
16	0.00	0.75	0.04	0.12	0.52	*0.51	0.00	0.58	*0.67	0.00	0.80	0.76	0.22	0.50	0.16	0.20	0.20
17	0.53	0.70	0.24	0.07	0.05	*0.06	0.00	0.07	*0.06	0.00	0.09	0.05	0.29	0.23	0.61	0.03	0.03
18	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	0.00	0.00
21	0.00	0.00	0.00	0.00	0.05	*0.00	0.00	0.00	*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	0.02	0.00	*0.00	0.00	0.00	*0.00	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00
23	0.02	0.00	0.00	0.03	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
24	0.75	0.61	0.96	0.10	*1.02	*0.62	0.48	0.70	*0.55	0.54	0.70	0.40	0.73	0.92	1.06	0.80	0.80
28	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	0.06	0.00	0.00
31	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	0.16	0.00	0.00
MTOT	7.21	7.19	7.36	6.05	6.25	5.70	4.79	6.48	6.43	6.56	6.23	6.10	6.36	5.51	7.76	5.98	5.98

MTOT = Monthly totals

* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 16 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

DATE	1BEE	1BAR	2BAR	3BAR	180L	1-ON	2-ON	1BER	2BER	1LBR	1SLA	2SLA	1BGS	1WMS	2WMS	3WMS
GAGE NUMBER																
JUNE																
5	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	0.13	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	0.00	0.51	0.00
9	0.00	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	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	0.69	0.00
11	0.50	0.86	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
12	0.65	0.00	0.86	0.73	0.74	0.75	0.53	0.63	0.48	0.78	0.72	0.88	0.76	0.79	0.81	0.42
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	0.00	0.44	0.00
14	0.00	0.48	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
16	0.49	0.00	0.63	0.53	0.74	0.31	0.12	0.54	0.45	0.32	0.59	0.55	0.42	0.63	0.74	0.53
21	0.50	2.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	1.11	0.00	1.25	1.32	0.49	1.12	2.00	2.15	2.28	1.63	2.69	1.70	0.53	1.21	0.19	1.16
23	0.00	0.10	0.00	0.01	0.01	0.00	0.00	0.02	0.02	0.02	0.00	0.03	0.02	0.01	0.00	0.01
25	0.22	0.04	0.23	0.26	0.16	0.11	0.00	0.05	0.07	0.00	0.06	0.15	0.36	0.05	0.58	0.19
26	1.79	0.00	1.04	0.80	0.80	0.00	0.00	0.27	1.62	0.43	0.22	1.73	0.84	0.63	0.23	0.35
27	0.02	0.00	0.02	0.01	0.16	0.52	0.39	0.24	0.28	0.95	0.10	0.41	0.60	0.05	1.13	0.01
28	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.01	0.31	0.74	0.09	0.00	0.00	0.12	0.00	0.08
29	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.06	0.10	0.00	0.11	0.17	0.42	0.00	0.09	0.28	0.01	0.01	0.00	0.00	0.03
MTOT	4.28	4.18	4.09	3.76	3.10	2.96	3.26	4.33	5.52	4.97	4.76	5.46	3.54	3.49	5.45	2.79
JULY																
1	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00
22	0.03	0.03	0.00	0.00	0.07	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
23	0.24	0.05	0.00	0.00	0.00	0.62	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	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	0.01	0.00	0.00	0.00	0.00
MTOT	0.27	0.08	0.00	0.00	0.07	0.62	0.03	0.00	0.02	0.00	0.31	0.02	0.01	0.00	0.00	0.00

MTOT = Monthly totals
* = Estimated

A U S T I N U R B A N H Y D R O L O G Y S T U D Y

TABLE 16 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF THE COLORADO RIVER PERIOD: 1982 WATER YEAR

DATE	1BAR	2BAR	3BAR	1BOL	1-ON	2-ON	1BER	2BER	1LBR	1SLA	2SLA	1BGS	1WMS	2WMS	3WMS
AUG															
7	0.00	0.02	0.00	0.00	0.00	0.00	0.07	0.09	0.00	0.51	0.00	0.00	0.00	0.00	0.00
8	*0.16	0.05	0.09	0.00	0.01	0.00	0.14	0.09	0.00	0.19	0.27	0.34	0.18	0.00	0.10
9	0.00	0.00	0.00	0.00	0.05	0.04	0.00	0.01	0.00	0.01	0.02	0.00	0.01	0.04	0.00
10	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.02
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	0.00	0.02
18	0.07	0.48	2.14	*1.93	0.00	1.99	0.10	0.00	0.00	0.56	0.00	0.00	2.03	0.00	2.33
19	0.01	0.00	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
20	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	0.00
30	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	0.24	0.55	2.25	1.93	0.04	2.09	0.10	0.31	0.19	0.00	1.27	0.29	0.34	2.25	2.47
SEPT															
3	0.18	0.03	0.20	0.21	0.20	0.24	0.69	0.32	0.27	0.18	0.51	0.14	0.37	0.18	0.11
4	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	0.01
13	0.13	0.22	0.15	*0.27	0.10	0.20	0.19	0.15	0.22	0.18	0.15	0.30	0.16	0.06	0.19
14	0.00	0.03	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.02	0.00	0.35	0.00	0.56	0.00	0.40	0.00	0.00	0.00	0.00	0.00
16	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	0.00
19	1.60	0.57	0.75	1.72	*0.28	0.75	0.23	1.38	0.87	0.33	1.70	0.57	0.17	*0.63	0.63
20	0.11	0.07	0.20	0.14	*0.15	0.01	0.06	0.04	0.10	0.06	0.12	0.13	0.12	*0.15	0.15
30	0.13	0.00	0.01	0.00	*0.43	0.00	0.03	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.51
MTOT	2.15	0.92	1.32	2.24	1.34	1.45	1.22	2.49	1.40	0.80	2.93	1.02	0.98	1.12	1.19
WTOT	29.65	29.26	29.26	28.81	28.10	25.70	19.75	28.21	28.27	28.27	34.56	26.78	26.85	28.37	32.73

MTOT = Monthly totals
 WTOT = Water Year totals
 * = Estimated

Table 17.--Records of wells, test holes, and springs in the Austin urban

Water-bearing units: Kea, Edwards and associated limestones; Kgru, Upper Glen Rose; Kgrl, Lower Glen Rose; Kno, 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 measurement for 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	30.7	Jan. 20, 1981	N	N	Well destroyed
601	J. R. McElroy	--	1935	85	6	30	Kgru	950	40.4	Jan. 20, 1981	N	N	<u>2/</u>
613	Dr. Mitchell Wong	--	1945	175	6	--	Kea	920	27.7 32.9	Jan. 25, 1982 Aug. 25, 1982	N	N	<u>2/ 3/</u>
902	S. D. Williams	--	--	53	--	--	Kea	902	31.2	Mar. 1, 1978	N	N	<u>4/</u>
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. <u>5/</u>
35-201	Lorene Bolt	A. Z. Daniels	1939	270	6	90	Kea	904	227.7	Mar. 15, 1978	S, E	D, S	<u>2/</u>
206	Joe Bailey	Glass	1945	700	6	650	Kea	820	209.7	Jan. 20, 1981	N	N	--
210	Vernon Turner	Robertson & McBride	1894	362	5	318	Kea	860	182.5 224.3	Aug. 5, 1981 Jan. 25, 1982	S, E	D, S	<u>6/</u>
212	Stuckey Candy Co.	C. T. Sterzing	1962	320	5	147	Kea	825	120	--	S, E	D	Reported yield 10 gal/min. <u>1/</u>
309	Edward Burkland	W. H. Glass	Aug. 8, 1970	515	7	377	Kea	810	162.5 196.8	Aug. 3, 1981 Jan. 25, 1982	S, E	D, Irr	<u>6/ 1/</u>
407	Austin White Lime	Taylor Virdeil	1952	396	10	15	Kea Kgru	845	77.2	Jan. 25, 1982	S, E	P	<u>6/</u>
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	87.95 95.65	Aug. 4, 1981 Jan. 25, 1982	S, E	S, Irr	<u>6/</u>
418	Parker	Glass	1966	88	7	88	Kea	770	70.28	Mar. 1, 1978	S, E	D	Reported yield, 15 gal/min. <u>4/</u>
420	Albert Paul	Sterzing	1964	280	7	90	Kea	767	54.90	Jan. 25, 1982	S, E	D	<u>1/</u>
501	L. Robinson	--	1889	276	5	--	Kea	831	231.8	Mar. 1, 1978	C, W	S	<u>4/</u>
506	Capital Memorial Park	--	--	533	7	408	Kea	795	--	--	S, E	Irr, D	Reported yield, 250 gal/min. <u>6/</u>

See footnotes at end of table.

Table 17.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	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	137.0 150.7	Mar. 2, 1982 Aug. 25, 1982	S, E	S	6/ 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	159.45	Jan. 20, 1981	S, E	N	Only water.
511	Austin White Lime	C. T. Sterzing	1963	200	7	50	Kea	822	157.05 151.30	Jan. 25, 1982 Aug. 25, 1982	S, E	D	Pamlee well. 6/ 3/
513	Lampighter 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 Kuempel	Cribbs & Davidson	1935	609	10	420	Kea	750	118.50 151.05	Jan. 25, 1982 Aug. 25, 1982	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	10.25 10.55	Jan. 25, 1982 Aug. 25, 1982	N	N	2/ 3/
710	Koenig	--	--	272	6	--	Kgru	875	32.0	Jan. 26, 1982	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	77.75 114.85	Aug. 5, 1981 Jan. 25, 1982	S, E	Irr	5/ 6/ 7/
806	John Mus	--	1932	459	6	203	Kea	690	59.5	Jan. 25, 1982	S, E	D	6/
808	Mrs. Richard Gracy	Roggenkamp	1976	460	5	300	Kea	762	137.35 167.65	Jan. 25, 1982 Aug. 25, 1982	S, E	D	3/ 6/ 7/
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	109.7 147.3	Jan. 25, 1982 Aug. 25, 1982	S, E	D	3/ 6/

See footnotes at end of table.

Table 17.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Casing		Depth of well (ft)	Water-bearing unit	Altitude of land surface (ft)	Water level below land surface datum (ft)	Date of latest measurement for annual water-level survey	Method of lift	Use of water	Remarks
				Diameter (in)	Depth (ft)								
Travis County--Continued													
YD-58-36-205	G. Pruitt	Jimmy Calhoun	1950	8	600	Kea	652	75.66	May 8, 1978	N	N	4/	
206	G. Pruitt	Jimmy Calhoun	1950	8	400	Kea	692	114.85	May 8, 1978	N	N	4/	
402	George Pfluger	H. Robertson	1925	5	400	Kea	755	111.8	Jan. 25, 1982	S, E	S, Irr	2/ 5/	
41-907	Helen Rice	Dick Sanders	1967	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	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	10	--	Kea	565	106.9 101.2	Jan. 26, 1982 Aug. 25, 1982	S, E	Pool		3/ 6/ Lake Austin 11 feet below normal elevation when water level measurement made on Jan. 26.
703	Lost Creek Development Co.	Central Texas Drilling	1972	6-5/8	510	Kho	680	164.1	--	S, E	P		Measured yield, 75 gal/min. 5/
805	Eanes School	S. W. Glass	1954	7	705	Kgrl	770	227.0	Jan. 26, 1982	N	N		Reported drawdown, 190 feet at 22 gal/min in Nov. 1954. 3/ 5/ 7/
809	Carlisle Schnelle	Glass	1949	6	98	Kea	720	285.75	Mar. 10, 1978	S, E	D		6/
810	Swenson	Boston Furr	1912	6	80	Kea	700	188.0	Jan. 26, 1982	N	N		3/
812	W. F. Guyton	C. T. Sterzing	1958	7 5	140 336	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	--	8	--	Kea	660	216.75	Jan. 26, 1982	S, E	P		This well supplies 15 families.
814	Dellano Hills	C. T. Sterzing	--	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	6	30	Kea	762	218.1	Jan. 11, 1980	N	N		U.S. Geological Survey test well #1. 3/ 5/ 7/
818	Swenson	C. T. Sterzing	1953	6	--	Kea	700	227.91	Mar. 8, 1978	S, E	D		6/
903	City of Austin	--	1920's	5	10	Kea	460	27.8	Jan. 26, 1982	S, E	N		Open hole below casing. Water-level recorder on this well. 3/ 5/

See footnotes at end of table.

Table 17.--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)								
Travis County--Continued														
YD-58-42-911	Bee Caves Properties	Charles Dellana	1920's	135	6	90	Kea	517	75.05	Jan. 26, 1982	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	102.70	Jan. 26, 1982	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>	
915	Norman Leach	Ted Norred	1942	296	6	100	Kea	660	219.65 199.34 212.47	Mar. 1, 1982 May 24, 1982 July 27, 1982	N	N	<u>5/</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	139.15	Jan. 26, 1982	S, E	Irr	<u>2/ 3/</u>	
926	Eugene Jacobs	Hugh Glass	1963	190	6	--	Kea	600	160.5	Jan. 26, 1982	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. Watson	1927	395	5	248	Kea	733	--	--	C, W	D	<u>7/</u>	
205	Houston Instruments	Thomas Arnold	1976	563	411	520	Kea	630	46.35	Jan. 26, 1982	N	N	<u>3/ 5/ 6/</u>	
206	H. M. Reese	E. A. Glass	1970	400	7	220	Kea	700	71.85	Jan. 25, 1982	S, E	D	<u>6/</u> Well destroyed in 1982	
303	B. F. Payton	B. F. Payton	1940	1,456	6	1,076	Kgr	633	60.15	Jan. 20, 1981	N	N	<u>5/ 7/</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	31.0	Jan. 26, 1982	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 17.--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-58-49-316	Cecil Herrin	Richard Bible	1968	340	7	18	Kgrl Kgru	940	240.0	Jan. 26, 1981	S, E	D	--
321	S. V. Water Corp.	Central Tex. Drilling	1977	440	5	--	Kgru Kgrl	920	287.2	Jan. 26, 1981	S, E	P	--
322	M. L. Harris	Frankie Glass	1972	480	7	42	Kgru Kgrl	970	164.3	Feb. 3, 1981	S, E	D	--
507	Appaloosa Run	Red Sanders	1973	575	7	43	Kgru Kgrl	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	Kgrl	898	100.00	Feb. 3, 1981	S, E	Irr	Reported yield <u>2/ 5/ 7/</u>
605	Circle C Ranch	Hutchins	1922	1,000	5	1,000	Kgrl	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	177.5	Jan. 26, 1982	S, E	D	<u>5/</u>
102	T. A. Beckett, Jr.	T. A. Beckett, Sr.	1902	250	6	10	Kea	850	141.35	Jan. 23, 1981	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	61.0	Jan. 26, 1982	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	131.0	Jan. 26, 1982	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/ 7/</u>
201	Elizabeth Jentsch	Gus Sanders	1917	290	4	--	Kea	655	193.85	Jan. 27, 1982	S, E	Irr	--
206	Kenneth Wingfield	W. H. Glass	1968	257	7	53	Kea	680	208.6 216.65	Aug. 10, 1981 Jan. 26, 1982	S, E	D	Reported yield, 10 gal/min. Cemented from 0-53 feet. <u>6/ 7/</u>

See footnotes at end of table.

Table 17.--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														
Y0-58-50-209	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	201.85	Jan. 5, 1982	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	B111 Ashbaugh	--	--	300	7	--	Kea	705	222.2	Jan. 26, 1982	S, E	D	--	
214	Ray Brownlea	A. C. Clements	1935	302	5	--	Kea	710	243.0	Jan. 27, 1982	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	240.3	Jan. 26, 1982	N	N		U.S. Geol. Survey test well #3. 3/ 5/ 7/
217	U.S. Geological Survey	Texas Dept. of Water Resources	1978	129	4	144	Kea	567	124.3	Jan. 26, 1982	N	N		U.S. Geol. Survey test well #2A. 3/ 5/ 7/
218	U.S. Geological Survey	Texas Dept. of Water Resources	1978	129	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	226.75	Dec. 22, 1980	N	N		4/ 5/
220	Buddy Fowler	Richard Bible	1974	310	6	310	Kea	675	--	--	S, E	O	6/	
301	John Lovelady	Gus Sanders	1949	388	5	296	Kea	640	156.70	Jan. 27, 1982	N	N		2/ 3/ 5/
305	Ralph Lowry	Nance & Bailey	1923	780	--	--	--	640	--	--	N	N		Abandoned oil test. 7/
401	A.I.S.D.	Glass	1967	404	7	252	Kea	750	194.05 240.0	Aug. 18, 1981 Jan. 27, 1982	S, E	D, S		6/ 7/
402	John Rehm	S. W. Glass	1967	355	7	196	Kea	750	210.7	Jan. 27, 1982	S, E	D		Reported drawdown 60 feet, when bailed for one hour at 45 gal/min. 7/
406	George Slaughter	John Glass	1946	360	5	100	Kea	820	298.26	Aug. 11, 1978	S, E	D		6/
408	Richard Austin	E. W. Glass	1971	439	7	125	Kea	772	183.8	Jan. 27, 1982	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 17.--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	185.5	Jan. 27, 1982	S, E	Irr	6/
411	Circle C Ranch	Glass	1940's	380	6		Kea	772	234.30	Jan. 27, 1982	S, E	D	--
412	Circle C Ranch	Glass	1972	295	7	194	Kea	809	157.20	Jan. 27, 1982	N	N	3/ 5/
502	Mrs. R. M. Herndon	Glass	1937	300	5-5/16	168	Kea	740	187.6 243.3	Aug. 11, 1981 Jan. 27, 1982	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	168.8	Jan. 27, 1982	S, E	Irr	Reported yield, 300 gal/min.
518	MHS Homes	--	1951	431	4	--	Kea	725	219.7	Jan. 27, 1982	N	N	3/ Well destroyed 6/23/82
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	178.7	Jan. 27, 1982	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/ 5/ 1/
705	Richard McKean	C. T. Sterzine	1965	200	7 5-1/2	164 200	Kea	660	--	--	S, E	D	6/
706	R. M. Wallace	C. T. Sterzine	1962	305	7	160	Kea	700	205	Nov. 9, 1962	N, N	N	Reported yield 10 gal/min. 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. 7/
720	Robert Hejl	Hugh Glass	1968	230	7	125	Kea	660	104.15	Feb. 3, 1982	S, E	S	--
721	Larry Jackson	Hugh Glass	1979	400	4	400	Kea	680	--	--	S, E	D	6/
801	C. H. Bird	Williamson & Adair	1939	277	5-1/4	200	Kea	662	83.0	Jan. 27, 1982	S, E	N	2/ 3/ Reported yield, 10 gal/min.
810	A. L. Wunneburger	Emmett Glass	1969	359	7	205	Kea	625	32.35	Jan. 27, 1982	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	160.8	Jan. 26, 1981	S, E	D	Reported yield, 30 gal/min. 1/

See footnotes at end of table.

Table 17.--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-58-50-822	Max Ladusch	Owens	1970	356	7	187	Kea	655	120.5	Jan. 27, 1982	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	99.3	Jan. 27, 1982	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	35.2	Jan. 28, 1982	S, E	D	2/ 7/
301	United Gas Pipeline	--	1943	703	6	639	Kea	734	136.0	Jan. 27, 1982	N	N	U.S. Geol. Survey observation well. 2/ 3/
304	R. C. Brown	Wells	1947	720	8	500	Kea	660	55.4	Jan. 30, 1981	S, E	N	
59-105	Arthur Johnson	Dixie Oil Co.	1925	745	--	--	--	655	--	--	N	N	Abandoned oil test. 7/

See footnotes at end of table.

Table 17.--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>Hays County</u>														
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	161.75	Feb. 10, 1981	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	36.05	Feb. 9, 1981	S, E	S		3/ 6/
802	Mrs. Bliss Spillar	--	1940's	200	6	--	Kea	930	136.2	Jan. 26, 1981	C, E	S		
803	Clara Calhoun	--	1954	135	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	142.75	Jan. 30, 1981	C, W	S		
806	Mike Rutherford	--	--	200	7	--	Kgru	935	71.3	Jan. 29, 1982	C, W	N		
901	P. J. Brewington	Thomas Arnold	1972	400	4	200	Kea	790	186.0	Jan. 27, 1982	S, E	D		1/
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 65.6	Aug. 12, 1981 Jan. 28, 1982	S, E	D		6/
102	Rutherford Ranch	--	--	200	4	--	Kea	1,055	135.5	Jan. 28, 1982	C, W	S		
103	Rutherford Ranch	--	--	200	4	--	Kea	1,015	141.0	Jan. 28, 1982	C, W	S		
104	Joe Rogers	James Tucker, Jr.	1976	527	6	62	Kgru	1,020	260	--	S, E	D		1/
201	Mike Rutherford	--	1945	320	6	--	Kea	925	162.0	Jan. 28, 1982	C, W	S		2/ 3/
202	Farris	Scarly Glass	--	200	7	200	Kea	905	24.0	Feb. 1, 1982	S, E	S		6/
203	Jack Dahlstrom	Raymond Whisenant	1970	225	7	25	Kea	835	80.4	Jan. 23, 1980	C, W	S		1/
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 17.--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--Continued													
LR-58-57-302	Jack Dahlstrom	W. H. Glass	1973	415	12	158	Kea	809	222.1	Jan. 28, 1982	S, E	S	5/ 7/
303	W. D. Turner	W. H. Glass	1973	315	7	315	Kea	870	246.3	Aug. 16, 1982	S, E	D	6/ 7/
402	Tom Fairey	James B. Tucker	1976	380	6	55	Kea	880	91.5	Jan. 29, 1982	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	172.2 200.8	Aug. 18, 1981 Jan. 28, 1982	S, E	D	Deepened to 385 feet by Ed Welge 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		6/ 7/
902	Gregg Ranch	--	Before 1943	450	6	--	Kea	821.55	213.25	Jan. 29, 1982	N	N	Originally an oil test well. 2/ 5/
903	Mountain City Ranch	C. L. Tyler	1943	400	6	--	Kea	822	221.25	Feb. 3, 1982	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	105.3	Jan. 27, 1982	N	N	2/ 3/ 5/
104	Henry Armbruster	T. E. Owens	1937	248	6	--	Kea	730.3	129.0	Jan. 27, 1982	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	100.0	Jan. 28, 1982	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 17.--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 land surface datum (ft)	Date of latest measurement for annual water-level survey			
Hays County--Continued													
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	N	N	Cemented 0-45 feet. <u>5/ 1/</u>
211	Don Rylander		1979	482	5	418	Kea	702	96.7	Jan. 28, 1982	N	N	
403	City of Buda	J. B. Wirdeil	1954	390	10	222	Kea	710	106.5	Jan. 28, 1982	T, E	P	<u>6/</u>
406	Texas Cement	F. S. Tatum	1966	525	10	310	Kea	743	139.1	Jan. 28, 1982	S, E	P	Cemented 0-310 feet. <u>2/ 1/</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	N	N	<u>5/</u>
411	M. I. Dismukes	E. B. Kutscher	1971	510	7	435	Kea	735	138.2	Jan. 27, 1982	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	N	N	<u>3/ 5/</u> Well destroyed 10/21/80.
503	Paul Keller	Dick Sanders	1966	540	7	481.5	Kea	745	133.7	Jan. 28, 1982	N	N	<u>5/ 1/</u>
504	Roger Brown	C. T. Sterzing	1962	640	7	514	Kea	778	164.9	Jan. 27, 1982	S, E	N	<u>3/</u>
701	D. A. Dacy	--	1950	492	8	--	Kea	711	116.5	Jan. 28, 1982	S, E	S	--
704	O. H. Cullen	E. R. Ownes	1972	532	7	368	Kea	746	154.6 152.2	Aug. 12, 1981 Jan. 28, 1982	S, E	D	<u>2/ 5/ 1/</u>
705	Ted Edwards	C. T. Sterzing	1964	667	7	548	Kea	725	127.98	Jan. 9, 1978	S, E	D	<u>1/</u>
706	Lex Word	Glass	1959	520	7	300	Kea	695	101.8	Jan. 28, 1982	S, E	N	Pump inoperative.
801	A. W. Whitten	C. L. Tyler	1943	502	7	431	Kea	712	115.0	Jan. 28, 1982	S, E	N	--
901	David Shubert	Woodward & Co.	1955	3,338	6	--	--	--	--	--	N	N	011 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 17.--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 land surface datum (ft)	Date of latest measurement for annual water-level survey			
Hays County--Continued													
LR-67-01-304	R. Selvera	Fleming Adair	1934	372	5	340	Kea	718	126.85	Jan. 28, 1982	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 19).

2/ Texas Department of Water Resources observation well.

3/ Monthly water-level measurements available in table 19.

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 18.--Water-quality data from wells in the Austin urban study area.

LOCAL IDENTIFIER	DATE OF SAMPLING	TIME	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN) (72004)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	CULIFORM, FECAL, U.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, FECAL, KF AQAK (COLS. PER 100 ML) (31673)
TRAVIS										
YU 58-35-309	82-08-02	1156	30	515	218.20	746	7.2	28.5	<1	<1
YU 58-35-407	82-08-03	1030	60	396	--	612	7.6	24.0	<1	43
YU 58-35-415	82-08-03	1005	60	112	--	752	6.8	23.5	<1	98
YU 58-35-506	82-08-02	1046	30	533	--	744	6.9	24.0	<1	<1
YU 58-35-508	82-08-02	1330	60	465	130.00	718	6.8	26.5	45	1400
YU 58-35-701	82-08-03	1345	30	610	205.00	745	6.9	26.5	<1	K2
YU 58-35-906	82-08-03	0930	30	600	122.00	1090	7.1	25.0	<1	<1
YU 58-36-402	82-08-04	0820	30	610	135.10	720	6.8	23.5	K20	K14
YU 58-42-306	82-08-03	1425	60	431	--	5530	6.9	26.0	<1	140
YU 58-42-508	82-08-04	1100	60	145	101.30	524	7.3	20.5	43	1700
YU 58-42-809	82-08-09	1020	25	340	--	468	7.0	21.5	<1	510
YU 58-42-814	82-08-09	1110	30	300	215.00	532	7.0	23.0	<1	<3
YU 58-42-818	82-08-09	0930	20	300	189.90	713	7.6	23.0	53	120
YU 58-42-913	82-08-09	0830	30	180	--	625	6.8	22.0	K1	K16
YU 58-42-926	82-04-22	0930	20	190	--	570	7.4	20.0	K5	18000
	82-04-23	0940			--	576	7.3	20.0	75	29000
	82-04-26	1000			--	576	7.3	20.5	K12	44000
	82-08-09	1155			161.50	592	6.9	22.0	K12	340
YU 58-43-206	82-08-04	0925	10	400	85.05	861	7.2	23.5	<1	31
YU 58-49-604	82-08-16	1320	60	565	--	928	6.9	23.5	<1	K1
YU 58-50-101	82-08-10	0815	30	217	--	--	--	--	<1	<1
	82-08-10	0920			--	618	6.8	25.0	--	--
YU 58-50-206	82-08-09	1320	30	257	--	505	7.0	23.0	<1	62
YU 58-50-211	82-08-10	0815	1440	282	--	597	6.8	22.0	K5	K9
YU 58-50-215	81-10-07	1420	20	360	--	600	7.3	23.0	<1	K13
	81-10-08	1130			--	588	7.3	22.5	K1	K4
	82-08-09	1355			--	584	6.7	24.0	<1	420
YU 58-50-216	82-08-30	1400	60	582	249.00	1530	7.4	25.0	<1	<20
YU 58-50-217	82-05-17	0835		126	--	506	7.2	21.0	--	--
YU 58-50-401	82-08-04	1250	30	404	243.50	563	7.1	24.0	<1	600
YU 58-50-406	82-08-10	1015	30	360	--	652	7.0	23.5	<1	21
YU 58-50-408	82-08-10	1115	30	439	138.00	595	7.0	23.5	<1	24
YU 58-50-412	82-08-04	1340	30	295	158.10	566	6.9	24.0	<1	140
YU 58-50-502	82-08-10	1430	30	300	248.10	575	7.1	23.0	K1	90
YU 58-50-704	82-08-11	1255	20	345	206.50	528	7.6	23.5	<1	K4
YU 58-50-810	82-08-10	1330	20	359	59.80	766	6.9	24.5	K2	30
YU 58-50-721	82-05-13	1445	20	400	--	553	7.4	22.5	<1	K1
	82-05-14	1030			--	558	7.4	22.5	<1	<1
	82-05-17	1000			--	559	7.4	22.0	<1	<1
YU 58-50-705	82-05-13	1030	20	200	--	561	7.3	21.0	K1	<1
	82-05-14	1000			--	454	7.4	21.5	1200	2700
	82-05-17	0930	20	200	--	503	7.4	21.5	270	1100
	82-05-19	0840			--	--	--	--	110	580
YU 58-50-220	82-04-22	1040	20	310	--	583	7.4	23.0	<1	K11
	82-04-23	0900			--	576	7.4	23.0	<1	K1
	82-04-26	0925			--	570	7.5	23.0	<1	<1
YU 58-50-218	82-05-13	1320		125	--	481	7.2	22.5	K15	110
	82-05-14	0900			--	458	7.3	21.0	K16	K20
	82-05-17	0835			--	506	7.2	21.0	K8	100

Table 18.--Water-quality data from wells in the Austin urban study area.

LOCAL IDENTIFIER	DATE OF SAMPLE	HARDNESS (MG/L AS CaCO ₃) (00900)	MAGNESIUM NONCARBONATE (MG/L AS CaCO ₃) (00902)	CALCIUM DISSOLVED (MG/L AS Ca) (00915)	MAGNESIUM DISSOLVED (MG/L AS Mg) (00925)	SODIUM DISSOLVED (MG/L AS Na) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD AS CaCO ₃ (00410)	SULFATE DISSOLVED (MG/L AS SO ₄) (00945)
TRAVIS										
YD 58-35-309	82-08-02	241	0	52	27	81	2.3	3.7	270	100
YD 58-35-407	82-08-03	302	42	83	23	11	.3	2.4	260	35
YD 58-35-415	82-08-03	386	6	120	21	8.8	.2	.6	380	18
YD 58-35-506	82-08-02	343	23	96	25	30	.7	1.5	320	39
YD 58-35-508	82-08-02	326	16	91	24	27	.7	1.1	310	32
YD 58-35-701	82-08-03	312	32	77	29	35	.9	1.7	280	36
YD 58-35-906	82-08-03	327	7	88	26	120	3.0	3.2	320	110
YD 58-36-402	82-08-04	314	54	120	3.5	26	.7	1.0	260	32
YD 58-42-306	82-08-03	1101	190	210	140	1000	13	55	310	2100
YD 58-42-608	82-08-04	207	27	50	20	24	.7	3.2	180	26
YD 58-42-809	82-08-09	229	29	62	18	7.9	.2	1.0	200	25
YD 58-42-814	82-08-09	262	22	72	20	7.5	.2	1.1	240	25
YD 58-42-818	82-08-09	318	48	63	39	15	.4	4.2	270	120
YD 58-42-913	82-08-09	327	27	98	20	6.1	.2	.8	300	17
YD 58-42-926	82-04-22	--	--	--	--	--	--	--	--	--
	82-04-23	--	--	--	--	--	--	--	--	--
	82-04-26	--	--	--	--	--	--	--	--	--
	82-08-09	292	32	84	20	8.6	.2	1.1	260	31
YD 58-43-206	82-08-04	264	0	61	27	83	2.3	2.4	280	66
YD 58-49-604	82-08-16	480	160	100	56	15	.3	5.2	300	200
YD 58-50-101	82-08-10	--	--	--	--	--	--	--	--	--
	82-08-10	296	26	64	33	6.5	.2	2.1	270	58
YD 58-50-206	82-08-09	245	5	62	22	7.3	.2	1.2	240	12
YD 58-50-211	82-08-10	299	29	80	24	10	.3	1.0	270	20
YD 58-50-215	81-10-07	--	--	--	--	--	--	--	--	--
	81-10-08	--	--	--	--	--	--	--	--	--
	82-08-09	289	9	58	29	9.0	.2	1.3	280	7.0
YD 58-50-216	82-08-30	679	420	140	80	100	1.7	11	260	570
YD 58-50-217	82-05-17	--	--	--	--	--	--	--	--	--
YD 58-50-401	82-08-04	296	26	79	24	6.6	.2	.4	270	12
YD 58-50-406	82-08-10	306	46	83	24	16	.4	.4	260	45
YD 58-50-408	82-08-10	303	13	72	30	8.1	.2	.7	290	8.0
YD 58-50-412	82-08-04	290	10	80	22	5.6	.1	.6	280	7.0
YD 58-50-502	82-08-10	295	15	72	28	6.5	.2	1.1	280	19
YD 58-50-704	82-08-11	275	5	77	20	6.5	.2	1.0	270	14
YD 58-50-810	82-08-10	295	65	62	34	43	1.1	3.3	230	130
YD 58-50-721	82-05-13	--	--	--	--	--	--	--	--	--
	82-05-14	--	--	--	--	--	--	--	--	--
	82-05-17	--	--	--	--	--	--	--	--	--
YD 58-50-705	82-05-13	--	--	--	--	--	--	--	--	--
	82-05-14	--	--	--	--	--	--	--	--	--
	82-05-17	--	--	--	--	--	--	--	--	--
	82-05-19	--	--	--	--	--	--	--	--	--
YD 58-50-220	82-04-22	--	--	--	--	--	--	--	--	--
	82-04-23	--	--	--	--	--	--	--	--	--
	82-04-26	--	--	--	--	--	--	--	--	--
YD 58-50-218	82-05-13	--	--	--	--	--	--	--	--	--
	82-05-14	--	--	--	--	--	--	--	--	--
	82-05-17	--	--	--	--	--	--	--	--	--

Table 18.--Water-quality data from wells in the Austin urban study area.

LOCAL IDENTIFIER	DATE OF SAMPLE	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLVENTS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)
TRAVIS										
Y0 58-35-309	82-08-02	41	3.0	14	484	<.10	<.020	.200	.70	<.010
Y0 58-35-407	82-08-03	11	.4	9.7	332	6.2	<.020	.060	1.1	<.010
Y0 58-35-415	82-08-03	16	.2	13	425	2.3	<.020	.060	1.0	<.010
Y0 58-35-506	82-08-02	31	.5	12	427	1.3	<.020	<.060	--	<.010
Y0 58-35-508	82-08-02	22	.5	11	394	3.0	<.020	<.060	--	<.010
Y0-58-35-701	82-08-03	49	.7	12	408	.11	<.020	.080	.62	.110
Y0-58-35-906	82-08-03	120	1.1	13	773	<.10	<.020	.210	.79	<.010
Y0 58-36-402	82-08-04	57	.4	8.0	404	2.7	<.020	.060	1.1	<.010
Y0 58-42-306	82-08-03	710	4.0	12	4417	<.10	<.020	3.10	.70	<.010
Y0-58-42-608	82-08-04	40	.3	9.9	261	.39	<.020	.080	.72	<.010
Y0 58-42-809	82-08-09	14	.2	8.8	257	.30	<.020	.070	.83	.030
Y0 58-42-814	82-08-09	13	.1	10	293	.96	<.020	.070	1.0	.040
Y0 58-42-818	82-08-09	14	.1	12	430	<.10	<.020	.140	1.4	.060
Y0 58-42-913	82-08-09	15	.1	10	347	1.6	<.020	.120	1.4	.050
Y0 58-42-926	82-04-22	--	--	--	--	1.4	<.020	<.060	--	.010
	82-04-23	--	--	--	--	1.4	<.020	.060	.40	<.010
	82-04-26	--	--	--	--	1.4	<.020	.070	.34	.010
	82-08-09	14	.1	11	326	1.6	<.020	.060	1.0	.030
Y0-58-43-206	82-08-04	75	1.1	12	495	<.10	<.020	.100	.60	.010
Y0 58-49-604	82-08-16	17	1.0	11	585	.21	.020	.100	.70	<.010
Y0 58-50-101	82-08-10	--	--	--	--	--	--	--	--	--
	82-08-10	8.6	.4	12	346	.41	<.020	<.060	--	.040
Y0 58-50-206	82-08-09	15	.2	11	275	1.3	.020	.110	1.2	.030
Y0 58-50-211	82-08-10	21	.2	11	329	1.7	<.020	.060	.94	.030
Y0 58-50-215	81-10-07	--	--	--	--	3.3	<.020	.110	.65	.020
	81-10-08	--	--	--	--	2.0	<.020	.110	.49	.020
	82-08-09	12	.2	15	309	2.7	<.020	<.060	--	.030
Y0 58-50-216	82-08-30	46	1.7	12	1117	1.6	<.020	.190	1.1	.080
Y0-58-50-217	82-05-17	--	--	--	--	.49	<.020	.070	.89	.050
Y0 58-50-401	82-08-04	11	.2	11	307	1.5	<.020	.060	.94	.070
Y0 58-50-406	82-08-10	23	.3	13	361	4.8	<.020	.110	2.1	.050
Y0 58-50-408	82-08-10	16	.2	14	323	1.1	<.020	.080	3.8	.060
Y0-58-50-412	82-08-04	12	.2	13	308	1.7	<.020	<.060	--	<.010
Y0 58-50-502	82-08-10	12	.7	12	319	.88	<.020	.130	.57	.020
Y0 58-50-704	82-08-11	10	.2	12	303	1.1	<.020	.090	.31	<.010
Y0 58-50-810	82-08-10	32	2.0	11	455	<.10	<.020	.130	.37	.020
Y0-58-50-721	82-05-13	--	--	--	--	.12	<.020	.070	.42	.020
	82-05-14	--	--	--	--	1.1	<.020	.090	.79	<.010
	82-05-17	--	--	--	--	1.1	<.020	<.060	--	.070
Y0-58-50-705	82-05-13	--	--	--	--	1.4	<.020	.070	.43	.020
	82-05-14	--	--	--	--	.72	<.020	.080	1.0	.040
	82-05-17	--	--	--	--	.97	<.020	.060	.77	.060
	82-05-19	--	--	--	--	--	--	--	--	--
Y0-58-50-220	82-04-22	--	--	--	--	2.1	<.020	.060	.31	.010
	82-04-23	--	--	--	--	2.1	<.020	.070	.44	.010
	82-04-26	--	--	--	--	2.1	<.020	.080	.62	.010
Y0-58-50-218	82-05-13	--	--	--	--	.40	<.020	.060	1.0	.080
	82-05-14	--	--	--	--	.50	<.020	.100	1.1	.030
	82-05-17	--	--	--	--	.50	<.020	.070	.93	.050

Table 18.--Water-quality data from wells in the Austin urban study area.

LOCAL IDENT- I- FILE#	DATE OF SAMPLE	TIME	ARSENIC	BARIUM,	CAESIUM,	CHRO-	CUPPER,	IRON,	LEAD,	MANGA-
			DIS- SOLVED (UG/L AS AS) (01000)	DIS- SOLVED (UG/L AS BA) (01005)	DIS- SOLVED (UG/L AS CU) (01025)	MIUM, DIS- SOLVED (UG/L AS CP) (01030)	DIS- SOLVED (UG/L AS CU) (01040)	DIS- SOLVED (UG/L AS FE) (01046)	DIS- SOLVED (UG/L AS PB) (01044)	NESE, DIS- SOLVED (UG/L AS NY) (01056)
TRAVIS										
YU-58-50-215	81-10-07	1420	1	400	0	0	2	10	2	0
	81-10-08	1130	1	400	0	0	1	30	7	0
YU-58-50-721	82-05-13	1445	1	100	<1	<10	2	30	<1	<10
	82-05-14	1030	1	200	<1	<10	3	10	2	<10
	82-05-17	1000	1	<100	<1	<10	2	20	<1	<10
YU-58-50-705	82-05-13	1030	1	<100	<1	<10	3	20	<1	<10
	82-05-14	1000	1	100	<1	<10	5	30	<1	<10
	82-05-17	0930	1	<100	<1	<10	2	10	10	10
YU-58-50-220	82-04-22	1040	1	100	<1	<10	5	<10	<1	<10
	82-04-23	0900	1	100	<1	<10	5	<10	<1	<10
	82-04-26	0925	1	100	<1	<10	2	50	<1	<10
YU-58-50-218	82-05-13	1320	1	<100	<1	<10	100	10	24	<10
	82-05-14	0900	1	<100	<1	<10	110	30	40	<10
	82-05-17	0835	1	100	<1	<10	33	10	20	<10

LOCAL IDENT- I- FILE#	DATE OF SAMPLE	MERCURY	ZINC,	SELE-	SILVER,
		DIS- SOLVED (UG/L AS HG) (71890)	DIS- SOLVED (UG/L AS ZN) (01090)	NIUM, DIS- SOLVED (UG/L AS SE) (01145)	DIS- SOLVED (UG/L AS AG) (01075)

TRAVIS

YU-58-50-215	81-10-07	.0	50	1	0
	81-10-08	.0	150	0	0
YU-58-50-721	82-05-13	<.1	10	<1	<1
	82-05-14	<.1	30	<1	<1
	82-05-17	<.1	10	<1	<1
YU-58-50-705	82-05-13	<.1	120	<1	<1
	82-05-14	<.1	110	<1	<1
	82-05-17	<.1	140	<1	<1
YU-58-50-220	82-04-22	<.1	20	1	<1
	82-04-23	<.1	10	<1	<1
	82-04-26	<.1	10	1	<1
YU-58-50-218	82-05-13	<.1	260	<1	<1
	82-05-14	.1	260	<1	<1
	82-05-17	<.1	100	<1	<1

LOCAL IDENT- I- FILE#	DATE OF SAMPLE	TIME	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT) (01515)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR) (80060)
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TRAVIS

YU-58-35-701	82-08-03	1345	--	--	<11	<.4	<6.4	<.4	<6.1	<.4
YU-58-43-206	82-08-04	0925	14	1.3	20	1.9	<7.2	1.0	<6.9	1.0

LOCAL IDENT- I- FILE#	DATE OF SAMPLE	RADIUM 226, DIS- SOLVED (PCI/L) (09511)	URANIUM 235, DIS- SOLVED, EXTRACTION (UG/L) (80020)
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TRAVIS

YU-58-35-701	82-08-03	.90	.60
YU-58-43-206	82-08-04	3.0	.36

Table 18.--Water-quality data from wells in the Austin urban study area.

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	PUMP OR FLOW PERIOD TO SAMPLING (MIN)	DEPTH BELOW SURFACE LEVEL (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD AND (DEG C) UNITS)	TEMPERATURE (DEG C)	COLIFORMS, FECALES, UM-F (COLS./100 ML)	STREPTOCOCCI, KF AGAR, PER (100 ML)	HARDNESS AS CALCS (00900)	DEPTH OF WELL TOTAL (FEET) 72008
			(72004)	(72019)	(00095)			(00400)	(00010)	(31625)	
DAYS											
LK-58-49-801	82-08-16	1220	20	37.00	683	6.7	21.5	<1	<17	352	100
LK-58-49-903	82-08-17	0920	30	--	625	7.0	22.0	25	<670	331	200
LK-58-57-101	82-08-16	1105	20	57.80	637	6.8	21.5	<1	170	325	125
LK-58-57-202	82-08-16	1015	20	29.50	666	6.9	22.5	<1	140	348	200
LK-58-57-303	82-08-16	0915	30	246.30	564	6.9	24.0	<1	140	310	315
LK-58-57-402	82-08-11	1115	20	94.00	577	7.1	23.5	<1	<1	240	380
LK-58-57-502	82-08-17	1030	30	204.00	563	7.0	23.0	<1	140	295	385
LK-58-57-901	82-08-11	1035	30	--	495	7.0	23.5	<1	<1	244	575
LK-58-58-105	82-08-17	1130	30	--	493	6.9	23.0	<1	<12	242	477
LK-58-58-407	82-08-11	1005	30	--	650	7.1	24.5	<1	<1	274	634
LK-58-58-704	82-08-11	0930	25	153.00	1020	7.7	24.5	<1	<1	308	532
LK-58-58-106	82-08-11	0830	45	128.00	567	6.9	23.5	<1	<1	290	450
LOCAL IDENTIFIER	DATE OF SAMPLE	HARDNESS, NONCARBONATE (MG/L AS CALS) (00902)	CALCIUM SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTIVE (MG/L AS TI) (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKALINITY FIELD AS CALCS (00410)	SULFATE DIS-SOLVED (MG/L AS SU) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	
											DAYS
LK-58-49-801	82-08-16	22	93	29	6.5	.2	1.6	330	31	11	
LK-58-49-903	82-08-17	11	98	21	5.7	.1	.6	320	9.0	9.0	
LK-58-57-101	82-08-16	5	84	28	6.8	.2	2.3	320	25	11	
LK-58-57-202	82-08-16	8	80	36	6.9	.2	1.3	340	17	12	
LK-58-57-303	82-08-16	10	91	20	7.0	.2	.6	300	7.0	11	
LK-58-57-402	82-08-11	6	55	36	6.1	.2	2.5	290	23	10	
LK-58-57-502	82-08-17	15	72	28	6.2	.2	1.0	280	13	12	
LK-58-57-901	82-08-11	4	53	27	5.8	.2	1.0	240	17	9.0	
LK-58-58-105	82-08-17	22	59	23	6.7	.2	1.3	220	22	11	
LK-58-58-407	82-08-11	34	65	32	6.8	.2	1.2	260	87	10	
LK-58-58-704	82-08-11	78	59	39	98	2.5	7.3	230	180	91	
LK-58-58-106	82-08-11	20	66	28	6.8	.2	1.3	260	39	10	
LOCAL IDENTIFIER	DATE OF SAMPLE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	NITROGEN, NUTRIENT TOTAL (MG/L AS N) (00630)	NITROGEN, NITRIFICABLE TOTAL (MG/L AS N) (00615)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)		
										DAYS	
LK-58-49-801	82-08-16	.3	12	382	.87	<.020	.080	.62	<.010		
LK-58-49-903	82-08-17	.1	12	347	1.2	<.020	.100	1.0	<.010		
LK-58-57-101	82-08-16	.3	13	364	<.10	<.020	.100	.50	.020		
LK-58-57-202	82-08-16	.2	13	370	.90	<.020	.060	.64	<.010		
LK-58-57-303	82-08-16	.1	12	324	1.7	<.020	.060	.94	<.010		
LK-58-57-402	82-08-11	.5	13	314	<.10	<.020	.060	.54	<.010		
LK-58-57-502	82-08-17	.2	12	312	2.1	<.020	.100	.20	<.010		
LK-58-57-901	82-08-11	.4	11	268	.54	<.020	.090	.41	.010		
LK-58-58-105	82-08-17	.4	11	266	1.5	<.020	.070	.63	<.010		
LK-58-58-407	82-08-11	1.5	11	370	<.10	<.020	<.060	--	<.010		
LK-58-58-704	82-08-11	3.5	12	628	<.10	<.020	.480	.62	.010		
LK-58-58-106	82-08-11	1.0	11	319	.80	<.020	.060	.44	<.010		

Table 19.--Monthly water-level measurements of observation wells in the Austin urban study area, 1982 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	25.70	25.50	27.65	27.70	28.10	27.85	26.60	24.50	26.30	31.60	32.90	--
35-508	79.75	84.10	100.30	--	137.00	a/146.50	--	106.30	109.80	130.60	150.70	--
511	140.60	150.80	148.35	157.05	149.10	152.15	152.50	148.20	148.80	155.25	151.30	--
607	86.90	92.90	107.50	118.50	138.40	153.10	148.15	114.80	115.20	133.15	157.05	--
702	9.90	9.90	10.20	10.50	10.35	10.30	9.50	8.45	9.25	10.10	10.55	--
808	109.15	115.30	128.85	137.35	152.80	163.70	161.70	135.45	133.90	147.60	167.65	--
906	76.40	80.20	--	109.70	128.25	141.90	137.60	103.60	104.30	122.90	147.30	--
42-608	100.95	103.25	102.20	106.90	b/103.80	102.55	102.00	--	100.80	101.30	101.20	--
805	226.60	229.85	226.40	227.00	231.45	--	230.80	227.75	225.00	226.80	228.55	238.75
810	187.70	187.75	187.80	188.00	188.10	188.05	187.75	187.45	187.80	189.90	190.70	189.45
903	26.18	26.36	30.78	27.80	31.70	31.01	28.04	26.88	26.98	28.10	28.70	28.97
925	137.40	137.55	138.70	139.15	139.60	142.10	141.70	138.45	138.70	139.80	140.50	139.15
43-205	42.20	41.45	43.85	46.35	52.35	58.25	64.50	65.10	59.90	57.60	61.75	--
705	25.00	25.25	28.70	31.00	35.60	37.40	42.70	40.40	37.00	36.55	40.25	--
LR-58-49-801	41.20	36.40	37.00	37.90	37.25	--	34.20	31.50	35.25	36.90	37.50	38.20
YD-58-50-211	--	199.8	201.85	--	--	--	--	--	--	--	--	--
216	220.65	224.15	234.85	240.30	246.42	248.45	250.00	231.45	231.37	241.30	246.25	256.00
217	82.70	93.70	120.10	124.30	d/	d/	91.70	76.27	84.88	122.40	d/	d/
301	140.15	143.00	148.20	156.70	164.90	174.10	176.10	169.00	164.40	165.40	171.00	179.50
412	154.40	155.50	156.70	157.20	158.35	158.90	159.60	157.50	157.05	--	--	161.15
518	189.35	194.70	209.40	219.70	231.15	234.10	222.50	170.00	c/	--	--	--
704	155.20	153.00	162.90	178.70	190.20	188.70	200.25	180.95	167.90	206.50	190.10	197.40
801	66.80	68.10	73.30	83.00	94.20	--	99.65	--	96.00	121.25	131.20	131.95
LR-58-57-201	161.10	--	--	162.00	166.70	162.20	164.10	161.70	162.20	165.20	165.10	165.85
402	93.30	93.00	91.85	91.50	91.70	94.70	92.40	91.15	92.05	93.40	95.30	95.45
903	194.65	--	--	--	221.25	231.00	--	215.00	224.00	223.05	223.70	247.05
58-101	88.05	87.90	93.10	105.30	111.00	116.00	120.20	97.35	103.45	113.80	142.20	126.50
301	133.80	133.15	136.90	136.00	137.70	140.60	143.35	144.85	143.80	146.55	145.10	148.30
504	156.30	--	161.35	164.90	--	174.25	177.30	176.35	171.85	176.60	177.90	183.45

^{1/} All measurements were made during the last week of the month. See table 17 for a listing of water-level measurements of additional wells made for the annual water-level survey.

a/ This measurement was made while the well was being pumped.

b/ Lake Austin lowered 11 feet below normal during January reading.

c/ Well destroyed.

d/ Well dry.