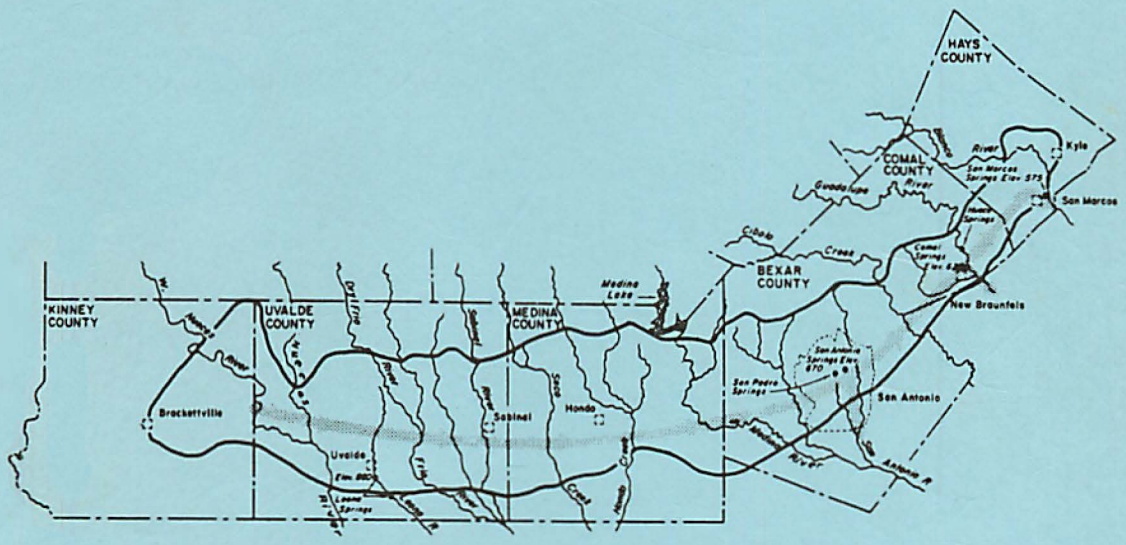
COMPILATION OF HYDROLOGIC DATA FOR THE EDWARDS AQUIFER, SAN ANTONIO AREA, TEXAS, 1983-84, WITH 1934-84 SUMMARY

Bulletin 43-44
Edwards Underground Water District
San Antonio, Texas



Prepared in Cooperation with the U.S. Geological Survey
and the Texas Department of Water Resources

EDWARDS UNDERGROUND WATER DISTRICT

1615 North St. Mary's
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BULLETIN 43, 44

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Compiled by

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Prepared by the U.S. Geological Survey in cooperation
with the Edwards Underground Water District and
the Texas Water Development Board

April 1986

ILLUSTRATIONS

TABLES

TABLES--Continued

DEFINITIONS OF TERMS

Technical terms and abbreviations as used in this report are defined as follows:

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

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

total-coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C (degrees Celsius). In the laboratory these bacteria are defined as the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C $\pm$ 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL (milliliters) of sample.

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

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

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

cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

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

color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

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

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

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

cubic foot per second (FT^3/S, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second. This rate is equivalent to approximately 7.48 gallons per second, 448.8 gallons per minute, or 0.02832 cubic meter per second.

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

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

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

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

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

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

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

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

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

micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter.

milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of sediment per liter of water-sediment mixture.

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

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

pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides and herbicides, which control insects and plants, respectively, and are the two categories reported.

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

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

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

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

specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids concentration in the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens) for streams. This relation is not constant from well to well or from stream to

stream, and it may vary in the same source with changes in the composition of the water.

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

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

suspended, recoverable refers to the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-µm membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

suspended, total refers to the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-µm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A

knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

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

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

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual basic-data reports.

WRD is used as an abbrevation for "Water Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

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

METRIC CONVERSIONS

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

From	Multiply by	To obtain
acre-feet (acre-ft)	1233	cubic meters (m^3)
	0.001233	cubic hectometers (hm^3)
cubic feet per second (ft^3/s)	0.02832	cubic meters per second (m^3/s)
feet (ft)	0.3048	meters (m)
feet per mile (ft/mi)	0.189	meters per kilometer (m/km)
inches (in.)	25.4	millimeters (mm)
miles (mi)	1.609	kilometers (km)
million gallons per day (Mgal/d)	0.04381	cubic meters per second (m^3/s)
square miles (mi^2)	2.590	square kilometers (km^2)

To convert °C (degrees Celsius) to °F (degrees Fahrenheit): °F = 9/5 x °C + 32.

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ABSTRACT

The average annual ground-water recharge to the Edwards aquifer in the San Antonio area, Texas, for 1934-83 and 1934-84, was 604,700 and 596,700 acre-feet, respectively. Annual recharge for 1983 and 1984 was significantly below the average annual recharge. The recharge in 1983 was 420,100 acre-feet. Recharge in 1984 was 197,900 acre-feet, which is the ninth lowest estimated annual recharge since 1934. A maximum annual recharge of 1,711,200 acre-feet occurred in 1958, and a minimum annual recharge of 43,700 acre-feet occurred in 1956.

The calculated annual discharge by wells and springs in 1983 and 1984 was 720,100 and 702,300 acre-feet, respectively. Annual discharge by wells and springs ranged from a maximum of 960,900 acre-feet in 1977 to a minimum of 388,800 acre-feet in 1955. The annual discharge by wells was 418,600 acre-feet in 1983. In 1984, the annual discharge by wells was 529,800 acre-feet, which is a record high for the 1934-84 period of record.

Although water levels in many of the wells fluctuated near or below the midpoint between record high and low levels in 1983, the volume of ground water in storage in the aquifer was above average during most of the year. In 1984, substantial declines occurred during the spring and summer, and water levels then fluctuated below average conditions in most of the wells. Water levels in many of the wells fluctuated just above the 1956 record low during

the summer. The volume in storage in the aquifer was below average during most of 1984.

Analyses of water samples from 158 wells and 3 springs in the Edwards aquifer show that the water in the freshwater zone is of a significantly better quality than the level established for public water systems. However, 62 percent of samples from 77 wells and 3 springs contained 1 or more organic compounds. Analyses of water samples collected from six wells in Bexar and Uvalde Counties showed concentrations of tetrachloroethylene in excess of 5 micrograms per liter. In 1984, samples were collected from wells along the "bad-water" line to detect changes in water quality as the potentiometric head in the Edwards aquifer changed.

INTRODUCTION

This annual compilation of the records of ground-water recharge, discharge, water levels, and water quality for the Edwards aquifer and for surface-water data in the San Antonio area, Texas, is part of a continuing investigation by the U.S. Geological Survey in cooperation with the Edwards Underground Water District and the Texas Water Development Board.

The calculations of annual recharge are based on data collected from a network of streamflow-gaging stations and on assumptions that relate the runoff characteristics of gaged areas to ungaged areas (Puente, 1978). The basic approach is a water-balance equation in which recharge within a stream basin is the difference between measured streamflow above and below the infiltration area plus the estimated runoff within the infiltration area. Hydrogeologic features of the Edwards aquifer are shown in figure 1, surface drainage basins are shown in figure 2, and data-collection sites are shown in figure 3.

Annual discharge is compiled from: (1) data collected by the Texas Water Development Board on pumpage for municipal, military, and industrial use; (2) calculations of pumpage for irrigation as determined from records of power consumption and irrigated acreage; and (3) Geological Survey records of spring flow at points of discharge.

Periodic measurements have been made in observation wells in the Edwards aquifer since 1929 to determine changes in ground-water storage in the aquifer. The first continuous water-stage recorders were installed on some observation wells during the late 1930's. During 1983 and 1984, periodic water-level measurements were made in 18 wells, and continuous water-stage recorders were in operation on 18 wells.

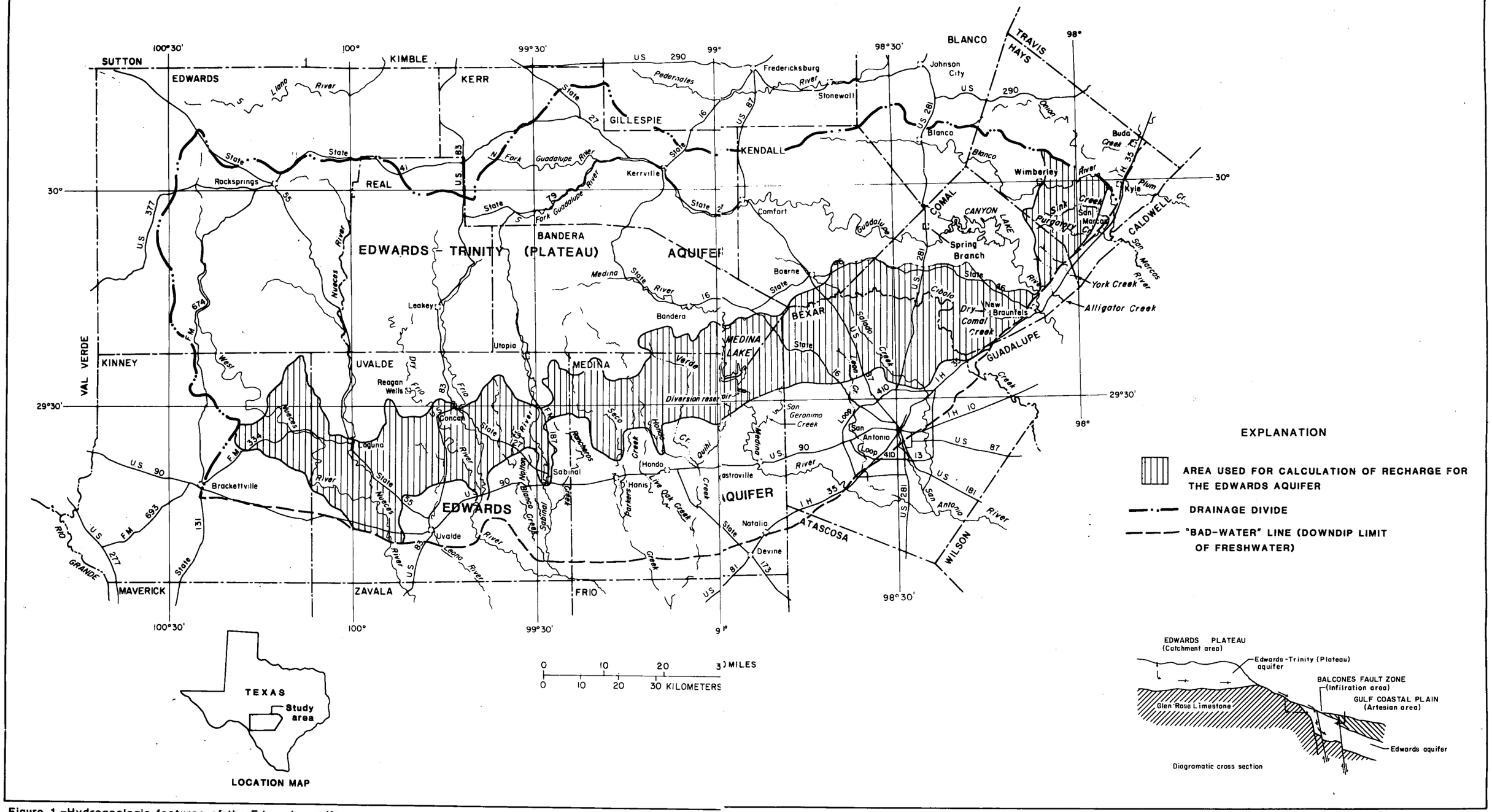


Figure 1.–Hydrogeologic features of the Edwards aquifer

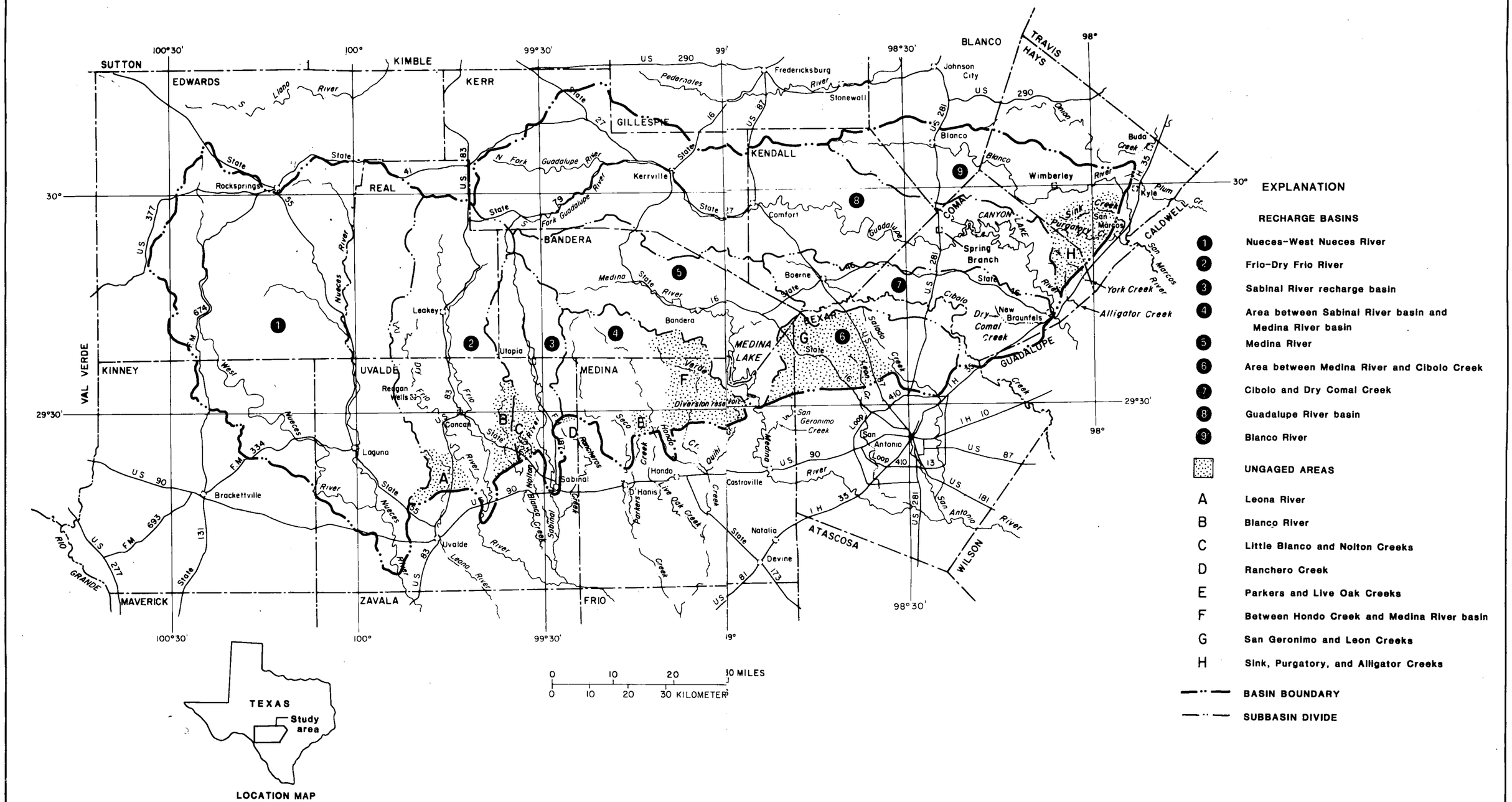
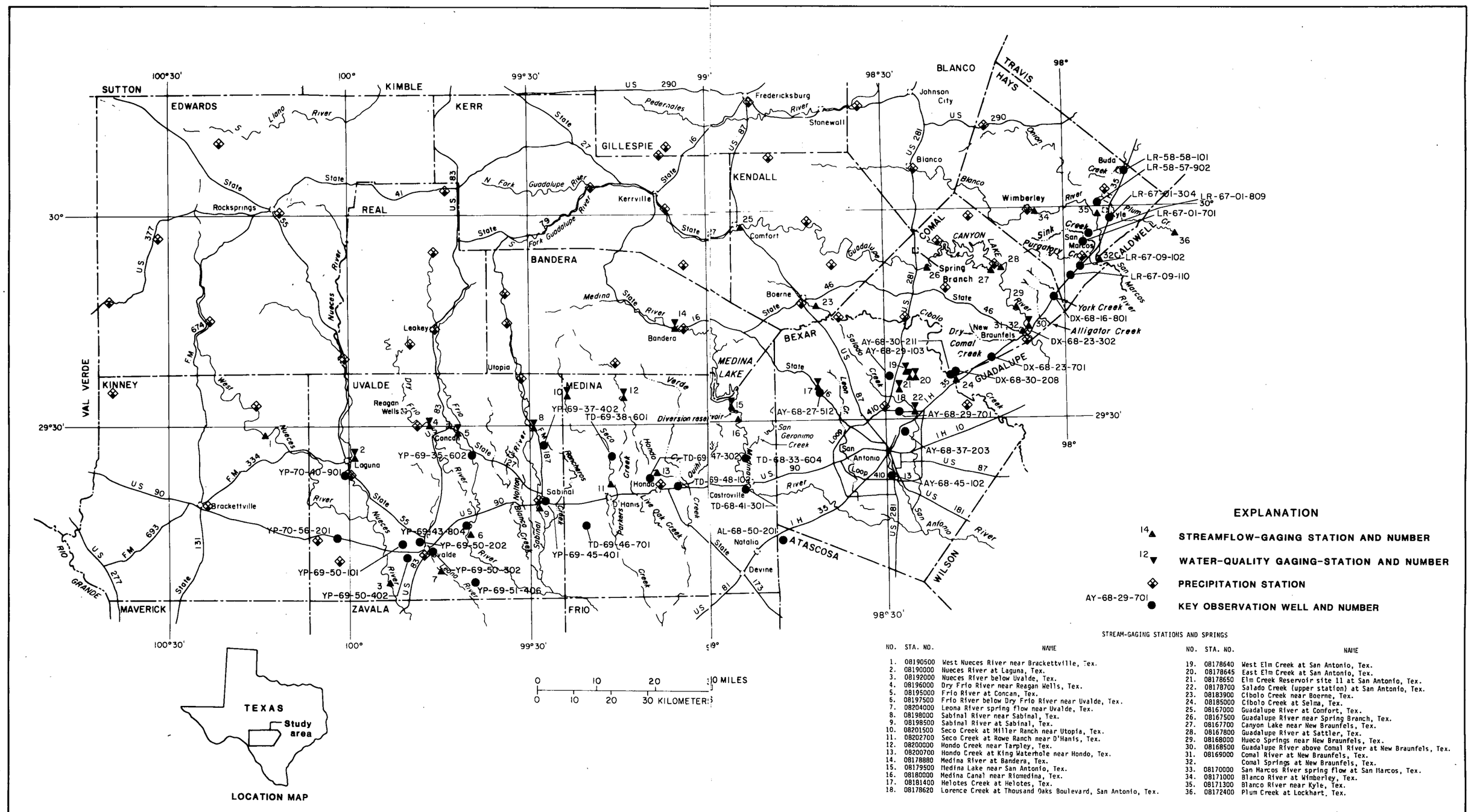


Figure 2.--Delination of surface-drainage basins used to calculate recharge to the Edwards aquifer



EXPLANATION

- ▲ STREAMFLOW-GAGING STATION AND NUMBER
- ▼ WATER-QUALITY GAGING-STATION AND NUMBER
- ◈ PRECIPITATION STATION
- ● KEY OBSERVATION WELL AND NUMBER

STREAM-GAGING STATIONS AND SPRINGS

NO.	STA. NO.	NAME
1.	08190500	West Nueces River near Brackettville, Tex.
2.	08190000	Nueces River at Laguna, Tex.
3.	08192000	Nueces River below Uvalde, Tex.
4.	08196000	Dry Frio River near Reagan Wells, Tex.
5.	08195000	Frio River at Concan, Tex.
6.	08197500	Frio River below Dry Frio River near Uvalde, Tex.
7.	08204000	Leona River spring flow near Uvalde, Tex.
8.	08198000	Sabinal River near Sabinal, Tex.
9.	08198500	Sabinal River at Sabinal, Tex.
10.	08201500	Seco Creek at Miller Ranch near Utopia, Tex.
11.	08202700	Seco Creek at Rowe Ranch near O'Hanis, Tex.
12.	08200000	Hondo Creek near Tarpley, Tex.
13.	08200700	Hondo Creek at King Waterhole near Hondo, Tex.
14.	08178880	Medina River at Bandera, Tex.
15.	08179500	Medina Lake near San Antonio, Tex.
16.	08180000	Medina Canal near Riomedina, Tex.
17.	08181400	Helotes Creek at Helotes, Tex.
18.	08178620	Lorence Creek at Thousand Oaks Boulevard, San Antonio, Tex.
19.	08178640	West Elm Creek at San Antonio, Tex.
20.	08178645	East Elm Creek at San Antonio, Tex.
21.	08178650	Elm Creek Reservoir site 11 at San Antonio, Tex.
22.	08178700	Salado Creek (upper station) at San Antonio, Tex.
23.	08183900	Cibolo Creek near Boerne, Tex.
24.	08185000	Cibolo Creek at Selma, Tex.
25.	08167000	Guadalupe River at Comfort, Tex.
26.	08167500	Guadalupe River near Spring Branch, Tex.
27.	08167700	Canyon Lake near New Braunfels, Tex.
28.	08167800	Guadalupe River at Sattler, Tex.
29.	08168000	Hueco Springs near New Braunfels, Tex.
30.	08168500	Guadalupe River above Comal River at New Braunfels, Tex.
31.	08169000	Comal River at New Braunfels, Tex.
32.		Comal Springs at New Braunfels, Tex.
33.	08170000	San Marcos River spring flow at San Marcos, Tex.
34.	08171000	Blanco River at Wimberley, Tex.
35.	08171300	Blanco River near Kyle, Tex.
36.	08172400	Plum Creek at Lockhart, Tex.

Figure 3.–Location of streamflow, ground-water level, and precipitation collection sites

CONTENTS

Surface-water data for Texas for the 1983 and 1984 water years are presented in three volumes, respectively identified by river basins. Data in each volume consist of records of stage, discharge, and water quality of streams and canals and records of stage, contents, and water quality of lakes and reservoirs. Records for a few pertinent stations in bordering states also are included. These data represent that part of the National Water Data System operated by the Geological Survey in cooperation with State and Federal agencies in Texas.

Previous and Related Studies

The Geological Survey and the Texas Water Development Board have been collecting hydrologic and geologic data in the San Antonio area on a continuing basis since 1929. Comprehensive reports of previous investigations include Arnow (1959); Bennett and Sayre (1962); DeCook (1963); Garza (1962, 1966); George (1952); Holt (1959); Lang (1954); Livingston, Sayre, and White (1936); Maclay and Small (1976); Petitt and George (1956); and Welder and Reeves (1962). The Texas Water Development Board has conducted extensive hydrologic and geologic studies to provide data for construction of a digital model of the aquifer.

In 1968, the Geological Survey, in cooperation with the Texas Water Development Board and the Edwards Underground Water District, began a continuing program to collect historical-reference data for detecting pollution and for determining changes in the quality of water in the Edwards aquifer. The results of the study from August 1968 to August 1969 were reported by Reeves and Blakey (1970), and the results from August 1968 to April 1972 were reported by Reeves, Rawson, and Blakey (1972). A progress report for August 1968 to January 1975 was made by Reeves (1976). Compilations of water-quality data

for February 1975 to September 1977 were reported by Reeves (1978), for October 1977 to September 1978 and October 1978 to December 1979 were reported by Reeves, Maclay, Grimm, and Davis (1980, 1981), for January 1980 to December 1980 were reported by Reeves, Maclay, and Davis (1982), for January 1981 to December 1981 were reported by Reeves, Maclay, and Ozuna (1984), and for January 1982 to December 1982 were reported by Reeves and Ozuna (1985).

In related studies, the Geological Survey, in cooperation with the Texas Water Development Board and the City of San Antonio, collected data from 1969 to 1980 on the quantity and quality of urban runoff in San Antonio. Data collected in the urban study have been reported in an annual series of hydrologic-data reports by Land (1971-72), Steger (1973-75), Gonzalez (1976), Harmsen (1977-78), Perez and Harmsen (1980), and Perez (1981-83).

Additional reports on the geology and hydrology of the San Antonio area as well as reports on recharge, discharge, water levels, and water quality for the Edwards aquifer are given in the section "Selected References."

Well-Numbering System

The well-numbering system in Texas was developed by the Texas Water Development Board for use throughout the State. Under this system, each 1-degree quadrangle is given a number consisting of two digits. These are the first two digits in the well number. Each 1-degree quadrangle is divided into 7-1/2-minute quadrangles which are given two-digit numbers from 01 to 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 to 9. This is the fifth digit of the well number. Finally, each well within a 2-1/2-minute quadrangle is given a two-digit number in the order in

which it was inventoried, starting with 01. These are the last two digits of the well number.

In addition to the seven-digit well number, a two-letter prefix is used to identify the county. The prefix for each county in the San Antonio area is as follows: AL, Atascosa; AY, Bexar; DX, Comal; LR, Hays; TD, Medina; and YP, Uvalde.

Each water-level observation well is also identified by a 15-digit number based on latitude and longitude and by a local number that is provided for continuity with older reports. The first 6 digits of the 15-digit number are degrees, minutes, and seconds of north latitude; the next 7 digits are degrees (including a leading 0 for those less than 100), minutes, and seconds of west longitude; and the final 2 digits are sequential numbers assigned in the order in which the wells are established in that 1-second quadrangle. The second seven-digit number is the State well number. Where there is a number inside parentheses, it is a number assigned to the well in some publication prior to 1978.

PRECIPITATION

The annual precipitation for 1981-84 and long-term average precipitation at selected stations in the San Antonio area are given in table 1. Annual rainfall in 1981 was above average at most of the stations as a result of significant storms in April, June, and October. Annual rainfall for 1982-84 was below average at nearly all of the stations in the San Antonio area, resulting in below average recharge for 1982-84.

GROUND-WATER RECHARGE

The infiltration area used for calculating recharge for the Edwards aquifer in the San Antonio area is shown in figure 1. The delineation of the infiltration area, as shown in figure 1, is based on geology plus surface- and ground-water divides. Recharge to the Edwards aquifer is derived mainly from seepage from streams that cross the outcrop of the aquifer and, to a lesser extent, from direct infiltration of precipitation on the outcrop. Some recharge also is derived from other aquifers that are hydraulically connected to the Edwards aquifer. Water can move freely between two aquifers either along solution-widened fractures and faults or where the aquifers are in fault contact (Welder and Reeves, 1962, p. 36). Other aquifers that contribute recharge to the Edwards aquifer are, from oldest to youngest, Glen Rose Limestone, Buda Limestone, Eagle Ford Shale, and Austin Chalk.

The calculated annual recharge by basins for 1934-84 and the average annual recharge for 1934-84 are given in table 2. Recharge in the Guadalupe River basin is not included because the amount of net recharge to the aquifer is not significant.

The annual recharge for 1934-84 ranged from 43,700 acre-feet in 1956 to 1,711,200 acre-feet in 1958. The average annual recharge for 1934-83 and 1934-84 was 604,700 and 596,700 acre-feet, respectively. The annual recharge for 1983 and 1984 was significantly below the average annual recharge. Recharge in 1983 was 420,100 acre-feet. In 1984, recharge was 197,900 acre-feet, which is the ninth lowest estimated annual recharge since 1934.

GROUND-WATER DISCHARGE

The calculated discharge, by county, from the Edwards aquifer during 1934-84 is given in table 3. The calculated discharge by county and by water use for 1983 is given in table 4 and for 1984 is given in table 5.

The discharge from springs was from San Marcos Springs in Hays County, Comal Springs in Comal County, San Antonio and San Pedro Springs in Bexar County, and Leona River Springs in Uvalde County. The calculated discharge from Leona River Springs includes underflow in the gravel underlying the springs.

The major discharge from wells was in Bexar, Uvalde, and Medina Counties, while the major spring flow was from Comal and Hays Counties. Many wells in Bexar County supplied water for municipal and military use. Other wells in Bexar County and most of the large wells in Uvalde and Medina Counties supplied water for irrigation of about 93,000 acres during 1983-84. The remaining discharge, principally from wells in Bexar County, was for industrial use, domestic supply, and miscellaneous uses.

The calculated total discharge from wells and springs in 1983 was 720,100 acre-feet. The discharge from wells decreased from 453,100 acre-feet in 1982 to 418,500 acre-feet in 1983. In 1983, about 58 percent of the total discharge was from wells, and approximately 66 percent of this amount was discharged from wells in Bexar County. The discharge from wells in 1983 was 8 percent less than in 1982, while spring flow decreased by about 10 percent. The total discharge from wells and springs in 1983 was about 8 percent less than in 1982 and about 18 percent more than the average discharge for 1934-82.

In 1984, the calculated total discharge from wells and springs was 702,300 acre-feet. The discharge from wells increased from 418,500 acre-feet in 1983

to 529,800 acre-feet in 1984, which is the maximum annual well discharge for 1934-84. In 1984, about 75 percent of the total discharge was from wells, and approximately 58 percent of this amount was discharge from wells in Bexar County. The discharge from wells in 1984 was 27 percent more than in 1983, while spring flow decreased by about 43 percent. The total discharge from wells and springs in 1984 was about 2 percent less than in 1983 and about 15 percent more than the average discharge for 1934-83.

The relationship between accumulated recharge and discharge for 1934-84 is shown in figure 4.

WATER LEVELS AND GROUND-WATER STORAGE

Water levels have been measured periodically in selected observation wells in the Edwards aquifer since 1929 to determine changes in ground-water storage. During the late 1930's, continuous water-level recorders were installed on some of the observation wells.

Water levels in wells fluctuate mainly in response to change in ground-water storage in the aquifer. When recharge is greater than discharge, water levels rise, and flow of the springs increases; when discharge is greater than recharge, water levels decline, and spring flow decreases. In general, the water levels are lowest during the summer because of the increased withdrawals from wells.

The annual high and low water levels recorded in five selected observation wells in the artesian part of the aquifer during 1981-84 are given in table 6. The general trend in 1983 and 1984 was downward, reflecting below normal recharge and increased withdrawals from the aquifer. The water levels in observation wells in 1983 and 1984 are given in table 7. Although the measured and

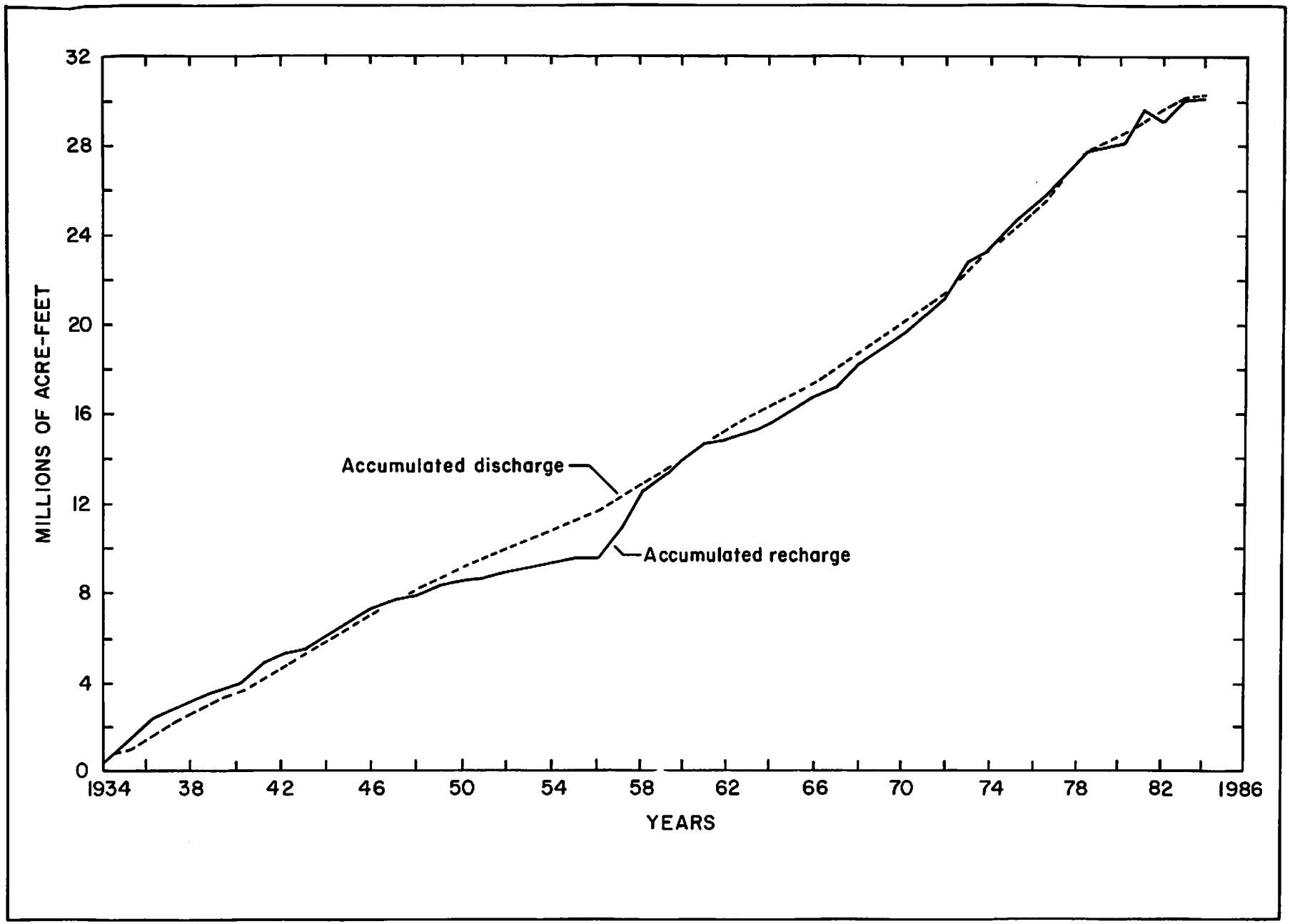


Figure 4.--Accumulated recharge and discharge, 1934-84.

recorded data show that the water levels during 1983 fluctuated near or below the midpoint when compared with historically recorded high and low measurements, the water levels fluctuated above midpoint during most of the year. Consequently, the volume in storage in the aquifer was above average during most of 1983. However, the data also show that substantial declines occurred during the spring and summer of 1984 and then fluctuated below average conditions for the remainder of the year in most of the wells. From June to September 1984, water levels in many of the wells fluctuated just above the 1956 record low. During the year, recharge was significantly below normal and withdrawals were at a record high. The volume in storage in the Edwards aquifer was below average during most of 1984.

In 1983 and 1984, 18 wells were measured periodically, and continuous recorders were in operation on 18 wells (fig. 3). Water levels in about 80 additional wells are measured annually in the San Antonio area by personnel of the Texas Water Development Board. Current and historical water-level measurements are available from the Texas Water Development Board in Austin, Texas. These records also are on file in the office of the Geological Survey in San Antonio, Texas.

Water-level measurements are reported in feet below land-surface datum (lsd) unless otherwise indicated. Water levels above land surface are indicated by a plus (+) sign. Water levels in wells equipped with recorders are reported every fifth day and at the end of the month (eom). If known, the altitude of the land surface above NGVD of 1929 is given in the well description.

WATER QUALITY FOR WELLS AND SPRINGS

The water-quality data-collection sites for the area are shown in figure 5, which also shows the sites for which data are given in Reeves (1976, 1978).

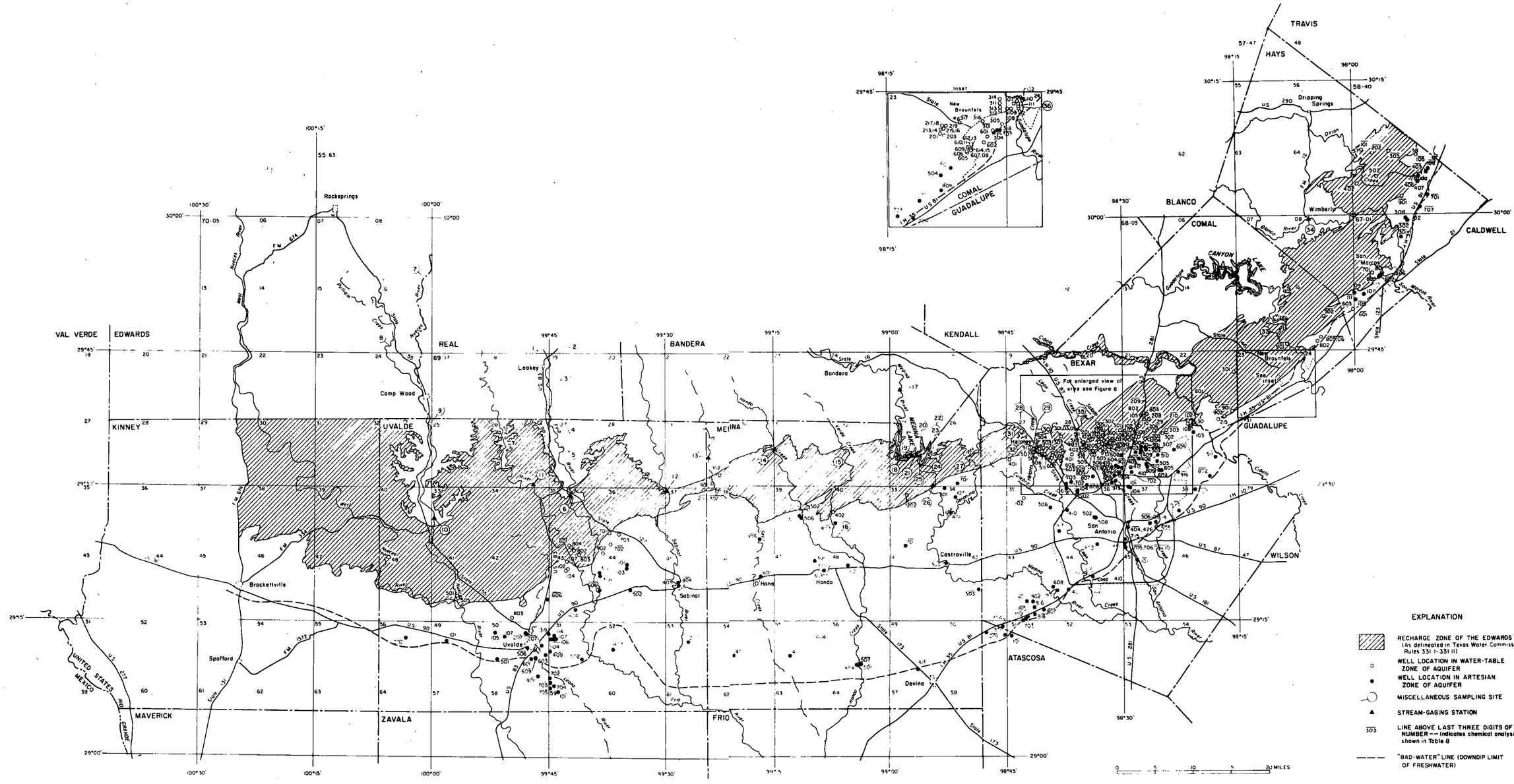


Figure 5.— Location of water-quality data-collection sites for wells and springs in the Edwards aquifer that have been sampled since 1968

Figure 6 is an inset for the San Antonio area. Although some of the wells are no longer in use, additional samples can be collected at most of the sites in order to detect changes in water quality.

Analyses of water samples collected from 158 wells and 3 springs in the Edwards aquifer during 1983 and 1984 are given in table 8. Many of the samples were analyzed for more than 50 properties or constituents, most of which affect the suitability of the water for domestic use. The analyses included determinations of the concentrations of densities of bacteria; major inorganic constituents; minor elements, including heavy metals; and pesticides. Analyses of samples from the wells and springs in the freshwater zone of the aquifer show that the water is of a significantly better quality than the level established for public water systems (table 13).

Because of the concern that increased withdrawals from the aquifer may result in the encroachment of mineralized water into the freshwater zone of the aquifer, a program was begun in 1984 to resample wells along the "bad-water" line in order to detect changes in water quality as the head in the aquifer changes. As part of the water-quality program, about 30 samples are collected annually. The analyses will be used as historical reference data to determine changes in water quality if the head in the aquifer declines below the 1956 record low.

The "bad-water" line, which marks the downdip limit of the fresh water (less than 1,000 mg/L dissolved solids), is shown in figure 5. South and southeast of this line, the water from wells is slightly to moderately saline and is high in sulfate and chloride. Water from some wells north of the line and all wells south of the line is charged with hydrogen sulfide gas. For many purposes, the dissolved-solids concentration is a major limitation on the use

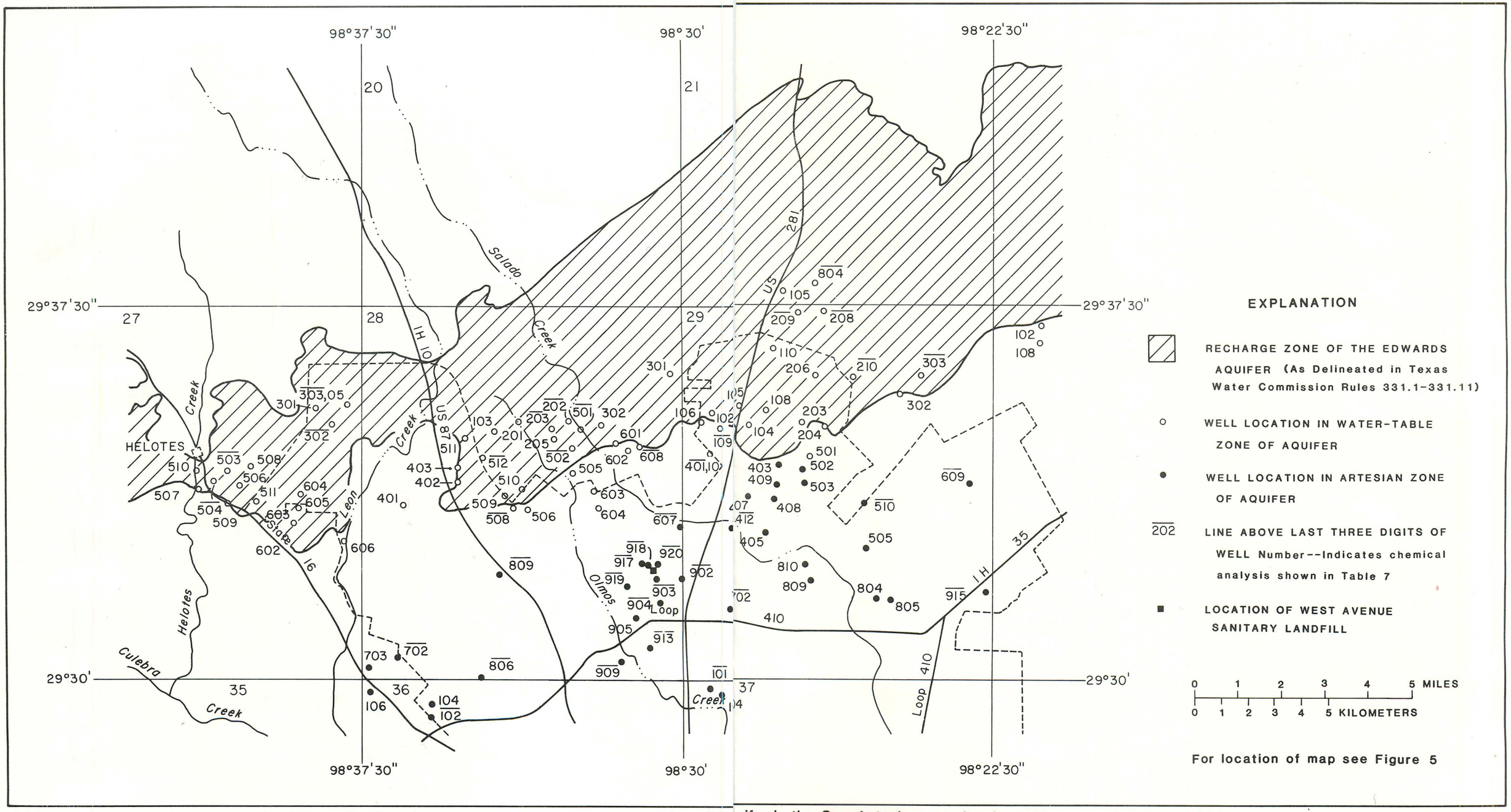


Figure 6.--Location of water-quality data-collection sites for wells and springs in the Edwards aquifer in the San Antonio area that have been sampled since 1968

of water. A general classification of water based on dissolved-solids concentration follows (Winslow and Kister, 1956, p. 5):

Description	Dissolved-solids concentration (mg/L)
Fresh	Less than 1,000
Slightly saline	1,000 to 3,000
Moderately saline	3,000 to 10,000
Very saline	10,000 to 35,000
Brine	More than 35,000

Water from wells in the freshwater zone near the "bad-water" line generally is more mineralized and has been designated as the transition zone in previous reports by Garza (1962, p. 38). Also, higher concentrations of dissolved solids occur in the lower part of the aquifer in the transition zone and in the slightly to moderately saline zone south and southeast of the "bad-water" line. A well drilled in the transition zone near the "bad-water" line can encounter fresh water in the upper part of the aquifer and slightly saline water in the lower part (Reeves, 1971, p. 5).

Samples from wells and springs in the Edwards aquifer were analyzed for purgeable volatile and base/neutral-acid extractable organic compounds in 1983 and 1984. The samples were analyzed for, but are not limited to, the following compounds on the Environmental Protection Agency Priority Pollutant list:

Volatile Organic Compounds

Benzene	Chlorodibromomethane
Bromoform	Chloroethane
Carbon tetrachloride	2-Chloroethyl vinyl ether
Chlorobenzene	Chloroform

Dichlorobromomethane	Cis-1,3-Dichloropropene
Chloromethane	Trans-1,3-Dichloropropene
1,1-Dichloroethane	Ethylbenzene
Toluene	Methylbromide
1,1,1-Trichloroethane	Methylene chloride
1,1,2-Trichloroethane	1,1,2,2-Tetrachlorethane
1,2-Dichloroethane	Tetrachloroethylene
1,1-Dichloroethylene	Trichloroethylene
1,2-trans-Dichloroethylene	Trichlorofluoromethane
1,2-Dichloropropene	Vinyl chloride

Acid-Extractable Organic Compounds

4-Chloro-3 methylphenol	2,4-Dinitrophenol
2-Chlorophenol	2-Nitrophenol
2,4-Dichlorophenol	4-Nitrophenol
2,4-Dimethylphenol	Pentachlorophenol
4,6-Dinitro-2-methylphenol	Phenol
2,4,6-Trichlorophenol	

Examples of other compounds which may be identified:

8-Methyl decanoic acid	Undecanoic acid

Base/Neutral Extractable Organic Compounds

Acenaphthene	Benzo (k) fluoranthene
Acenaphthylene	Benzo (g,h,i) perylene
Anthracene	Benzo (a) pyrene
Benzidine	4-Bromophenyl phenyl ether
Benzo (a) anthracene	Butyl benzyl phthalate
Benzo (b) fluoranthene	bis (2-Chloroethoxy) methane

bis (2-Chloroethyl) ether

bis (2-Chloroisopropyl) ether

2-Chloronaphthalene

4-Chlorophenyl phenyl ether

Chrysene

Dibenz (a,h) anthracene

1,2-Dichlorobenzene

1,3-Dichlorobenzene

1,4-Dichlorobenzene

3,3-Dichlorobenzidine

Dimethyl phthalate

Di-n-butyl phthalate

2,4-Dinitrotoluene

2,6-Dinitrotoluene

Di-n-octylphthalate

bis (2-Ethylhexyl) phthalate

Fluoranthene

Fluorene

Hexachlorobenzene

Hexachlorobutadiene

Hexachlorocyclopentadiene

Hexachloroethane

Indeno (1,2,3-cd) pyrene

Isophorone

Napthalene

Nitrobenzene

n-Nitrosodimethylamine

n-Nitrosodiphenylamine

n-Nitrosodi-n-propylamine

Phenanthrene

Pyrene

2,3,7,8-Tetrachlorodibenzo-p-dioxin

1,2,4-Trichlorobenzene

Examples of other compounds which may be identified:

2-Chlorobenzenamine, total recoverable (µg/L)

2,5-Dimethylnonane, total recoverable (µg/L)

2,4-Dimethylpentane, total recoverable (µg/L)

Analytical methods used for the determination of the organic compounds are described by Wershaw and others (1983) in "Methods for the Determination of Organic Substances in Water and Fluvial Sediments."

The volatile organics are determined by purge and trap followed by gas chromatography/mass spectrometry. A water sample is purged with helium and the

purgeable organic compounds are carried by the helium and trapped on a porous polymer trap. The trapped compounds are thermally desorbed into the gas chromatograph and detected by mass spectrometry. Data reported below the method detection limit of 3.0 µg/L are provisional in that precision and accuracy are not defined at these lower concentrations; however, the data are qualitatively accurate.

Base/neutral-acid compounds are extracted from a water sample with methylene chloride by the following method:

> The base/neutral fraction is extracted with methylene chloride after the pH of the sample is adjusted to greater than 11. The acid fraction is extracted with methylene chloride after the pH of the sample is adjusted to less than 2. Each extract is concentrated and subjected to analysis by gas chromatography using a mass spectrometric detector. The method detection limit for base/neutral-acid compounds ranges from 5 to 30 µg/L; therefore, concentrations reported below this limit are provisional. However, the data are qualitatively accurate.

Mass spectra are obtained for every compound that elutes from the gas chomatograph in sufficient concentration to yield a discernible peak. A computerized search is performed using a National Bureau of Standards computer library reference spectra of about 35,000 compounds. Although most common organic compounds can be identified by this method, most of the samples contain compounds that cannot be identified because the concentrations were too low or because reliable library matches could not be obtained.

The U.S. Environmental Protection Agency's proposed maximum contaminant level (MCL) for eight volatile organic compounds (VOC) are given in table 13.

The MCL's were promulgated in the Federal Register on November 13, 1985 (vol. 50, no. 219, p. 46880-46933) as revisions to the National Interim Primary Drinking Water Regulations. The MCL for a ninth VOC (tetrachlorethylene), will be determined after an appropriate public comment period. MCL's are enforceable standards and are set as close to the recommended maximum contaminant level (RMCL) as is feasible. MCL's are based upon treatment technologies, costs (affordability), and other feasible factors, such as availability or analytical methods and costs for achieving various levels of removal.

RMCL's are non-enforceable health goals and are set at levels which would result in no known or anticipated adverse health effects with an adequate margin of safety. RMCL's for substances considered to be probable human carcinogens are set at zero and RMCL's for substances not treated as probable human carcinogens are based upon chronic toxicity or other data. The final RMCL's for eight volatile synthetic organic chemicals in drinking water are:

Compound	Recommended maximum contaminant level
Benzene	0
Vinylchloride	0
Carbon tetrachloride	0
1,2-Dichloroethane	0
Trichloroethylene	0
1,1-Dichloroethylene	0.007 mg/L
1,1,1-Trichloroethane	0.20 mg/L
p-Dichlorobenzene	0.75 mg/L

NOTE: The RMCL for tetrachloroethylene was proposed at zero. New toxicological data appear to confirm that zero is appropriate, but the public comment period was reopened for public comment on the new data.

In 1983 and 1984, 121 samples from 77 wells and 3 springs in the Edwards aquifer were analyzed for volatile organic compounds (table 9). Although 17 volatile organic compounds, exclusive of probable laboratory contaminants, were detected in samples from the aquifer, the samples contained only 5 compounds with concentrations equal to or greater than 3 µg/L, and only 1 compound, tetrachloroethylene, with concentrations in excess of 5 µg/L. No measurable volatile organic compounds were detected in samples from 21 wells. Although concentrations for benzene, chloroform, methylene chloride, and toluene are given in the tables for volatile organic compounds, these compounds are common solvents used in the laboratory, and their presence in a sample usually can be traced to contamination of the sample by laboratory atmosphere.

Samples from 49 wells and 1 spring contained 1 or more volatile organic compounds which could be determined to exist in the sample at the time of analysis. The concentrations of the compounds in many of the samples, however, were near the limit of detection, and these data should be used with caution. Samples from four wells, AY-68-28-905, AY-68-30-511, AY-68-35-102, and YP-69-50-203, contained trihalomethanes. The principal source of trihalomethanes in drinking water is chemical interaction of the chlorine (added for disinfection) with natural humic substances in raw water. Samples from only 11 wells contained 1 or more volatile organic compounds with concentrations equal to or greater than 3 µg/L, and only 1 compound, tetrachloroethylene, was detected in excess of 5 µg/L. Samples containing the highest concentration of volatile organic compounds were from wells in Uvalde and Bexar Counties.

Samples from wells YP-69-51-104, YP-69-51-106, YP-69-51-107, and YP-69-51-114, in Uvalde County contained tetrachloroethylene in excess of 5 µg/L. The source of the tetrachloroethylene is unknown at the present time. Samples

from wells AY-68-28-918 and AY-68-28-920, which are adjacent to a landfill in northern Bexar County, also contained tetrachloroethylene in excess of 5 µg/L. In addition, samples from wells AY-68-29-902 and AY-68-28-903, which are near the landfill, contained tetrachloroethylene in excess of 3 µg/L.

Analyses of volatile organic compounds of water samples collected from 2 wells in the fill material of the landfill are given in table 10. The base/neutral-acid extractable compounds are listed in table 11 in decreasing degree of confidence. An abandoned quarry in the Austin Chalk Formation, which is about 90 feet deep in places, was used for a landfill. Analyses of samples collected from 5 monitor wells in the Austin Chalk Formation on the perimeter of the landfill are given in table 12. The water-quality data-collection sites are shown in figure 7.

A gas chromatographic scan using a flame ionization detector (GC/FID) was performed on methylene chloride extracts of samples collected from well AY-68-28-903 on February 3, 1983, and from well AY-68-28-919 on February 2, 1983. Although individual compounds are not identified by this method, the presence of organic compounds was indicated on the chromatograms. A comparison of GC/FID chromatograms of the samples with chromatograms of the reagent blanks prepared with the samples indicates that the samples contained several compounds. However, the concentrations were too small for possible identification by mass spectrophotometer.

SURFACE-WATER DATA

Records of discharge (or stage) of streams and of contents (or stage) of lakes and reservoirs, and records of chemical quality, water temperature, and suspended-sediment data for streams are published in Geological Survey water-supply papers or in Geological Survey water-data reports. These reports may

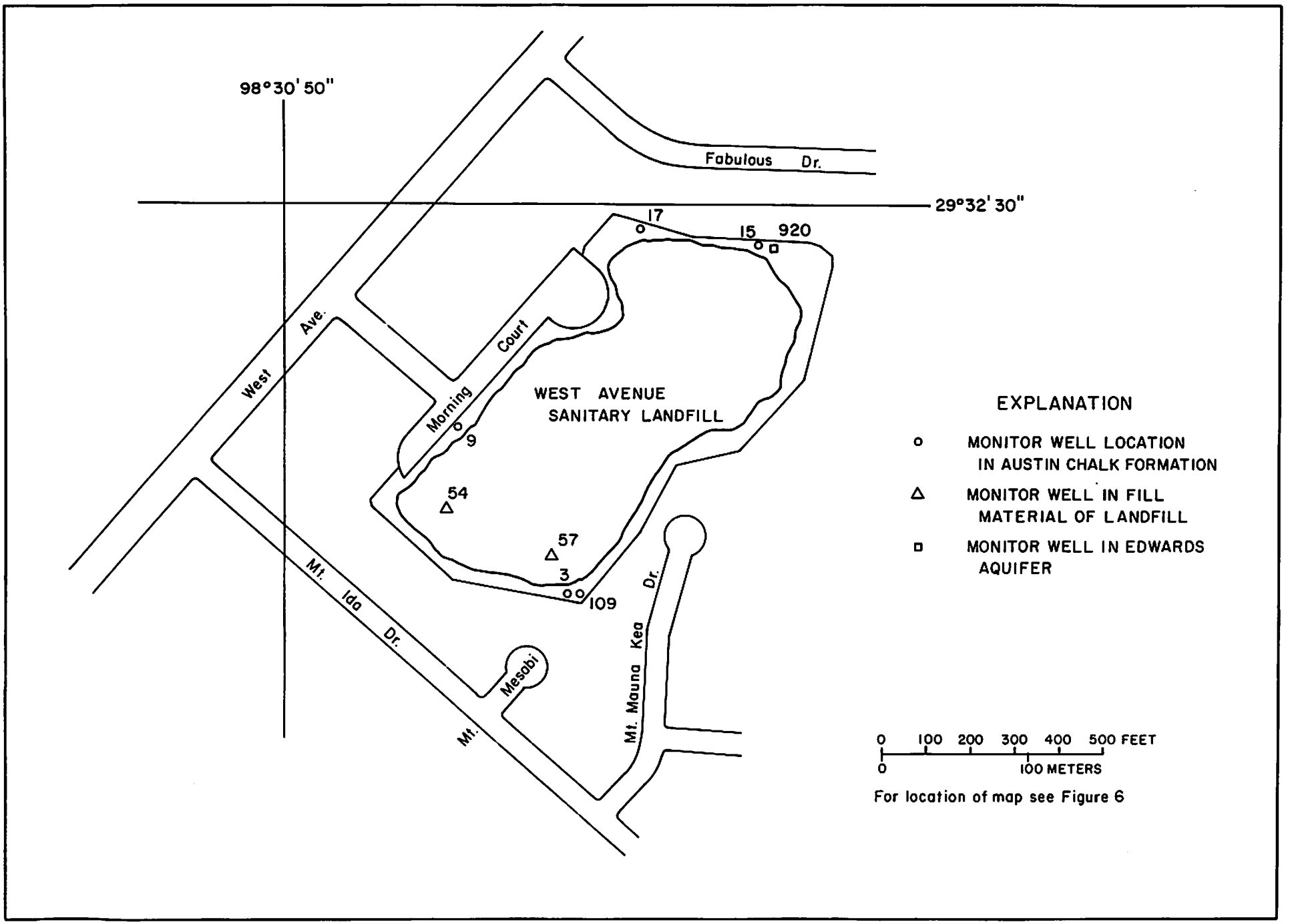


Figure 7.--Location of water-quality data-collection sites for wells in and adjacent to the West Avenue sanitary landfill.

be seen in the libraries of principal cities of the United States or in the offices of the Water Resources Division of the Geological Survey.

Records of streamflow and contents of reservoirs and measurements of spring flow and water quality of streams and reservoirs for selected stations in the vicinity of the Edwards aquifer in the San Antonio area are given in tables 14 and 15. These data are used in the calculation of the annual recharge to the aquifer or in the calculation of the annual discharge from the aquifer.

Water-quality data collected at stations upstream from the recharge zone are used to evaluate the quality of recharge water for the aquifer. Data collected at gaging stations throughout the area provide streamflow and water-quality data. Data-collection sites are shown in figure 3.

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Table 1.--Annual and long-term average precipitation at selected stations, 1981-84 [1]

Station	Precipitation (inches)				Long-term average	
	1981	1982	1983	1984	Inches	Years of record
Brackettville	28.73	12.62	19.35	16.24	20.72	93
Uvalde	26.24	23.35	--	--	24.73	79
Sabinal	30.19	18.44	23.33	20.67	25.67	61
Hondo	27.40	21.99	--	--	28.64	76
San Antonio	36.37	22.96	26.11	25.95	28.53	106
Boerne	41.05	27.64	--	26.97	33.07	87
New Braunfels	43.23	21.04	34.13	20.90	31.63	89
San Marcos	49.62	--	36.95	--	33.70	80

[1] Precipitation data from the U.S. Department of Commerce (1981-84).

Table 2.--Calculated annual recharge to the Edwards aquifer by basin, 1934-84
(in thousands of acre-feet)

Calendar year	Nueces-West Nueces River basin	Frio-Dry Frio River basin[1]	Sabinal River basin[1]	Area between Sabinal River and Medina River basins[1]	Medina Lake	Area between Cibolo Creek and Medina River basins[1]	Cibolo-Dry Comal Creek basin	Blanco River basin[1]	Total
1934	8.6	27.9	7.5	19.9	46.5	21.0	28.4	19.8	179.6
1935	411.3	192.3	56.6	166.2	71.1	138.2	182.7	39.8	1,258.2
1936	176.5	157.4	43.5	142.9	91.6	108.9	146.1	42.7	909.6
1937	28.8	75.7	21.5	61.3	80.5	47.8	63.9	21.2	400.7
1938	63.5	69.3	20.9	54.1	65.5	46.2	76.8	36.4	432.7
1939	227.0	49.5	17.0	33.1	42.4	9.3	9.6	11.1	399.0
1940	50.4	60.3	23.8	56.6	38.8	29.3	30.8	18.8	308.8
1941	89.9	151.8	50.6	139.0	54.1	116.3	191.2	57.8	850.7
1942	103.5	95.1	34.0	84.4	51.7	66.9	93.6	28.6	557.8
1943	36.5	42.3	11.1	33.8	41.5	29.5	58.3	20.1	273.1
1944	64.1	76.0	24.8	74.3	50.5	72.5	152.5	46.2	560.9
1945	47.3	71.1	30.8	78.6	54.8	79.6	129.9	35.7	527.8
1946	80.9	54.2	16.5	52.0	51.4	105.1	155.3	40.7	556.1
1947	72.4	77.7	16.7	45.2	44.0	55.5	79.5	31.6	422.6
1948	41.1	25.6	26.0	20.2	14.8	17.5	19.9	13.2	178.3
1949	166.0	86.1	31.5	70.3	33.0	41.8	55.9	23.5	508.1
1950	41.5	35.5	13.3	27.0	23.6	17.3	24.6	17.4	200.2
1951	18.3	28.4	7.3	26.4	21.1	15.3	12.5	10.6	139.9
1952	27.9	15.7	3.2	30.2	25.4	50.1	102.3	20.7	275.5
1953	21.4	15.1	3.2	4.4	36.2	20.1	42.3	24.9	167.6
1954	61.3	31.6	7.1	11.9	25.3	4.2	10.0	10.7	162.1
1955	128.0	22.1	0.6	7.7	16.5	4.3	3.3	9.5	192.0
1956	15.6	4.2	1.6	3.6	6.3	2.0	2.2	8.2	43.7
1957	108.6	133.6	65.4	129.5	55.6	175.6	397.9	76.4	1,142.6
1958	266.7	300.0	223.8	294.9	95.5	190.9	268.7	70.7	1,711.2
1959	109.6	158.9	61.6	96.7	94.7	57.4	77.9	33.6	690.4
1960	88.7	128.1	64.9	127.0	104.0	89.7	160.0	62.4	824.8
1961	85.2	151.3	57.4	105.4	88.3	69.3	110.8	49.4	717.1
1962	47.4	46.6	4.3	23.5	57.3	16.7	24.7	18.9	239.4
1963	39.7	27.0	5.0	10.3	41.9	9.3	21.3	16.2	170.7
1964	126.1	57.1	16.3	61.3	43.3	35.8	51.1	22.2	413.2
1965	97.9	83.0	23.2	104.0	54.6	78.8	115.3	66.7	623.5
1966	169.2	134.0	37.7	78.2	50.5	44.5	66.5	34.6	615.2
1967	82.2	137.9	30.4	64.8	44.7	30.2	57.3	19.0	466.5
1968	130.8	176.0	66.4	198.7	59.9	83.1	120.5	49.3	884.7
1969	119.7	113.8	30.7	84.2	55.4	60.2	99.9	46.6	610.5
1970	112.6	141.9	35.4	81.6	68.0	68.8	113.8	39.5	661.6
1971	263.4	212.4	39.2	155.6	68.7	81.4	82.4	22.2	925.3
1972	108.4	144.6	49.0	154.6	87.9	74.3	104.2	33.4	756.4
1973	190.6	256.9	123.9	286.4	97.6	237.2	211.7	82.2	1,486.5
1974	91.1	135.7	36.1	115.3	96.2	68.1	76.9	39.1	658.5
1975	71.8	143.6	47.9	195.9	93.4	138.8	195.7	85.9	973.0
1976	150.7	238.6	68.2	182.0	94.5	47.9	54.3	57.9	894.1
1977	102.9	193.0	62.7	159.5	77.7	97.9	191.6	66.7	952.0
1978	69.8	73.1	30.9	103.7	76.7	49.6	72.4	26.3	502.5
1979	128.4	201.4	68.6	203.1	89.4	85.4	266.3	75.2	1,117.8
1980	58.6	85.6	42.6	25.3	88.3	18.8	55.4	31.8	406.4
1981	205.0	365.2	105.6	252.1	91.3	165.0	196.8	67.3	1,448.4
1982	19.4	123.4	21.0	90.9	76.8	22.6	40.1	23.5	417.7
1983	79.2	85.9	20.1	42.9	74.4	31.9	62.5	23.2	420.1
AVERAGE	102.1	110.3	38.1	93.4	60.3	64.5	99.4	36.5	[2]604.7
1984	32.4	40.4	8.8	18.1	43.9	11.3	16.9	25.9	197.9
AVERAGE	100.7	108.9	37.5	91.9	59.9	63.5	97.8	36.3	[2]596.7

[1] Includes recharge from gaged and ungaged areas within the basin.
[2] Average totals may not be identical because of rounding procedures.

Table 3.--Calculated annual discharge from the Edwards aquifer by county, 1934-84
(in thousands of acre-feet)

Year	Kinney-Uvalde Counties	Medina County	Bexar County	Comal County	Hays County	Total	Total spring discharge	Total well discharge
1934	12.6	1.3	109.3	229.1	85.6	437.9	336.0	101.9
1935	12.2	1.5	171.8	237.2	96.9	519.6	415.9	103.7
1936	26.6	1.5	215.2	261.7	93.2	598.2	485.5	112.7
1937	28.3	1.5	201.8	252.5	87.1	571.2	451.0	120.2
1938	25.2	1.6	187.6	250.0	93.4	557.8	437.7	120.1
1939	18.2	1.6	122.5	219.4	71.1	432.8	313.9	118.9
1940	16.1	1.6	116.7	203.8	78.4	416.6	296.5	120.1
1941	17.9	1.6	197.4	250.0	134.3	601.2	464.4	136.8
1942	22.5	1.7	203.2	255.1	112.2	594.7	450.1	144.6
1943	19.2	1.7	172.0	249.2	97.2	539.3	390.2	149.1
1944	11.6	1.7	166.3	252.5	135.3	567.4	420.1	147.3
1945	12.4	1.7	199.8	263.1	137.8	614.8	461.5	153.3
1946	6.2	1.7	180.1	261.9	134.0	583.9	428.9	155.0
1947	13.8	2.0	193.3	256.8	127.6	593.5	426.5	167.0
1948	9.2	1.9	159.2	203.0	77.3	450.6	281.9	168.7
1949	13.2	2.0	165.3	209.5	89.8	479.8	300.4	179.4
1950	17.8	2.2	177.3	191.1	78.3	466.7	272.9	193.8
1951	16.9	2.2	186.9	150.5	69.1	425.6	215.9	209.7
1952	22.7	3.1	187.1	133.2	78.8	424.9	209.5	215.4
1953	27.5	4.0	193.7	141.7	101.4	468.3	238.5	229.8
1954	26.6	6.3	208.9	101.0	81.5	424.3	178.1	246.2
1955	28.3	11.1	215.2	70.1	64.1	388.8	127.8	261.0
1956	59.6	17.7	229.6	33.6	50.4	390.9	69.8	321.1
1957	29.0	11.9	189.4	113.2	113.0	456.5	219.2	237.3
1958	23.7	6.6	199.5	231.8	155.9	617.5	398.2	219.3
1959	43.0	8.3	217.5	231.7	118.5	619.0	384.5	234.5
1960	53.7	7.6	215.4	235.2	143.5	655.4	428.3	227.1
1961	56.5	6.4	230.3	249.5	140.8	683.5	455.3	228.2
1962	64.6	8.1	220.0	197.5	98.8	589.0	321.1	267.9
1963	51.4	9.7	217.3	155.7	81.9	516.0	239.6	276.4
1964	49.3	8.6	201.0	141.8	73.3	474.0	213.8	260.2
1965	46.8	10.0	201.1	194.7	126.3	578.9	322.8	256.1
1966	48.5	10.4	198.0	198.9	15.4	571.2	315.3	255.9
1967	81.1	15.2	239.7	139.1	82.3	557.4	216.1	341.3
1968	58.0	9.9	207.1	238.2	146.8	660.0	408.3	251.7
1969	88.5	13.6	216.3	218.2	122.1	658.7	351.2	307.5
1970	100.9	16.5	230.6	229.2	149.9	727.1	397.7	329.4
1971	117.0	32.4	262.8	168.2	99.1	679.5	272.7	406.8
1972	112.6	28.8	247.7	234.3	123.7	747.1	375.8	371.3
1973	96.5	14.9	273.0	289.3	164.3	838.0	527.6	310.4
1974	133.3	28.6	272.1	286.1	141.1	861.2	483.8	377.4
1975	112.0	22.6	259.0	296.0	178.6	868.2	540.4	327.8
1976	136.4	19.4	253.2	279.7	164.7	853.4	503.9	349.5
1977	156.5	19.9	317.5	295.0	172.0	960.9	580.3	380.6
1978	154.3	38.7	269.5	245.7	99.1	807.3	375.5	431.8
1979	130.1	32.9	294.5	300.0	157.0	914.5	523.0	391.5
1980	151.0	39.9	300.3	220.3	107.9	819.4	328.3	491.1
1981	104.2	26.1	280.7	241.8	141.6	794.4	407.3	387.1
1982	129.2	33.4	305.1	213.2	105.5	786.4	333.3	453.1
1983	107.7	29.7	271.6	186.6	118.5	720.1	301.6	418.5
1984	151.1	46.9	309.7	108.9	85.7	702.3	172.5	529.8

Table 4.--Calculated discharge from the Edwards aquifer by county and by water use, 1983

County	Springs	Municipal supply and military use	Irrigation	Industrial use	Domestic supply, stock, and miscellaneous use	Total (million gallons per day)	Total (thousand acre-feet per year)
	Million gallons per day						
Kinney	--	--	--	--	0.2	0.2	0.2
Uvalde	20.4	4.3	68.8	0.2	2.3	96.0	107.5
Medina	--	3.8	22.1	--	.6	26.5	29.7
Bexar	1.1	196.1	11.8	9.1	29.7	247.8	277.6
Comal	152.8	10.3	.2	2.7	.6	166.6	186.6
Hays	94.9	8.0	.6	1.1	1.2	105.8	118.5
Total (million gallons per day)	269.2	222.5	103.5	13.1	34.6	642.9	
Total (thousand acre-feet per year)	301.5	249.2	115.9	14.7	38.8		720.1

Table 5.--Calculated discharge from the Edwards aquifer by county and by water use, 1984

County	Springs	Municipal supply and military use	Irrigation	Industrial use	Domestic supply, stock, and miscellaneous use	Total (million gallons per day)	Total (thousand acre-feet per year)
	Million gallons per day						
Kinney	--	--	--	--	0.2	0.2	0.2
Uvalde	8.0	5.1	118.8	0.4	2.4	134.7	150.9
Medina	--	5.2	36.1	--	.6	41.9	46.9
Bexar	.2	225.0	14.6	9.4	27.3	276.5	309.7
Comal	81.3	12.0	.4	2.9	.6	97.2	108.9
Hays	64.5	9.1	.8	.9	1.2	76.5	85.7
Total (million gallons per day)	154.0	256.4	170.7	13.6	32.3	627.0	
Total (thousand acre-feet per year)	172.5	287.2	191.2	15.2	36.2		702.3

Table 6.--Annual high and low water levels in selected observation wells in the Edwards aquifer, 1981-84
(feet above NGVD of 1929)

Well	1981		1982		1983		1984		Record high	Record low	Period of record
	High	Low	High	Low	High	Low	High	Low			
YP-69-50-302[1] H-5-1 (Uvalde Co.)	881.85	867.95	881.80	876.40	877.10	871.30	873.31	856.89	886.26 May 1977	811.0 Apr. 1957	1929-32, 1934-84
TD-68-41-301[1] J-1-82 (Medina Co.)	723.13	693.25	717.08	682.73	698.12	667.65	684.48	641.99	737.78 May 1977	622.3 Aug. 1956	1950-84
AY-68-37-203[1,2] J-17 (Bexar Co.)	685.98	661.27	680.53	647.33	669.92	642.11	656.97	623.17	696.5 Oct. 1973	[3]612.5 Aug. 1956	1932-84[4]
DX-68-23-302[1] G-49 (Comal Co.)	627.96	625.34	627.26	623.57	625.64	622.96	624.36	619.61	630.17 Apr. 1977	613.3 Aug. 1956	1948-84
LR-67-01-304[1] H-23 (Hays Co.)	586.15	565.50	584.66	647.33	589.72	560.36	582.53	544.27	593.8 Mar. 1968	540.4 July 1978	1937-84

[1] New State well number replaces old well number.
[2] Replaces well 26 and reflects the same water level; composite record of wells 26 and AY-68-37-203.
[3] Record low for well 26.
[4] Composite record of wells 26 and AY-68-37-203.

Table 7.--Water levels in observation wells in the Edwards aquifer, 1983-84
(Water levels furnished by Edwards Underground Water District)

291342098475401. AL-68-50-201. Public supply artesian well in Edwards aquifer, diam. 10 to 8 in., depth 2,379 ft, cased to 2,304 ft. Lsd 724.14 ft above msl. Highest water level 14.12 ft below lsd, Nov. 12, 1973; lowest 87.62 ft below lsd, Jan. 12, 1957. Records available 1957-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 28, 1983	41.37	Apr. 5, 1983	41.29	July 7, 1983	64.81	Mar. 1, 1984	60.28
Feb. 28	41.86	June 1	51.32				

293345098405901. AY-68-27-512. Unused water-table well in Edwards aquifer, diam. 6 in., depth 502 ft, cased to 18 ft. Lsd 992.0 ft above msl. Highest water level 130.09 ft below lsd, Oct. 26, 1973; lowest 241.10 ft below lsd, July 6, 1978. Records available 1971-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 28, 1983	194.80	July 26, 1983	194.34	Jan. 1, 1984	194.30	Sept. 20, 1984	195.34
Apr. 27	193.63	Sept. 5	195.19	Feb. 9	194.76	Nov. 8	195.24
May 26	194.26	Oct. 7	193.57	Mar. 1	195.19	Nov. 29	197.65
July 1	198.19	Dec. 9	194.27	Mar. 29	194.30		

293228098303902. AY-68-28-920. Unused water-table well in Edwards aquifer, diam. 5 in., depth 360 ft, cased to 250 ft. Lsd 919.8 ft above msl. Highest water level 263.96 ft below lsd, Dec. 21, 1983; lowest 295.67 ft below lsd, Sept. 2, 1984. Records available 1983-84.

Highest 1983 water level 263.96 ft below lsd on Dec. 21; lowest 1983 water level 266.74 ft below lsd on Dec. 30.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	264.11
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	264.02
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	264.93
Eom	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Highest 1984 water level 264.52 ft below lsd on Feb. 3; lowest 1984 water level 295.67 ft below lsd on Sept. 2.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	.....	.....	267.11	e273.01	282.64	287.14	283.95	.....	294.97	.....	278.21	277.54
10	.....	.....	268.08	274.29	.....	.....	283.11	.....	.....	.....	.....	277.40
15	.....	.....	268.20	276.01	.....	287.13	280.22	.....	.....	.....	.....	.....
20	264.96	265.60	268.45	277.43	.....	286.78	279.29	.....	.....	.....	.....	.....
25	264.32	265.91	269.35	279.36	e285.97	.....	278.77	294.68	.....	.....	.....	.....
Eom	264.71	266.47	271.51	281.14	286.54	284.61	.....	295.42	.....	279.13	277.54	.....

293522098291201. AY-68-29-103 (F-214). Unused water-table well in Edwards aquifer, diam. 10 in., depth 547 ft, cased to 100 ft. Lsd 952.67 ft above msl. Highest water level 224.80 ft below lsd, May 31, 1977; lowest 284.35 ft below lsd, Nov. 21, 1957. Records available 1957-84.

Highest 1983 water level 265.41 ft below lsd on Jan. 7; lowest 1983 water level 274.73 ft below lsd on Dec. 17.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	265.68	265.83	266.05	266.43	268.38	267.54	271.03	271.85	273.76	274.34	273.94	273.71
10	265.65	266.05	266.62	267.42	268.65	267.56	271.26	271.36	273.02	273.89	274.40	274.33
15	265.96	265.89	266.56	267.36	268.31	268.14	270.39	272.15	273.27	273.85	274.46	274.56
20	265.66	266.07	266.63	267.53	268.31	268.61	270.01	272.63	273.09	273.84	274.23	.....
25	265.92	266.05	266.06	268.29	265.67	268.94	270.90	272.86	273.33	274.46	274.19	.....
Eom	265.55	266.30	265.72	267.58	267.10	270.23	272.37	273.40	273.87	274.42	274.04	.....

Highest 1984 water level 276.01 ft below lsd on Apr. 2; lowest 1984 water level 283.71 ft below lsd on Sept. 26.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	.....	.....	.....	277.02	278.76	279.47	279.95	282.14	282.11	283.37	282.65	282.22
10	.....	.....	.....	276.78	279.16	279.72	281.05	282.49	282.25	282.96	282.53	282.05
15	.....	.....	.....	277.60	279.45	279.16	281.37	280.98	283.11	282.67	282.58	281.92
20	.....	.....	.....	277.66	278.65	279.95	281.45	282.07	283.18	282.90	282.74	281.31
25	.....	.....	.....	278.04	279.31	280.68	281.30	281.65	283.50	282.83	280.75	281.59
Eom	.....	.....	276.45	278.35	279.26	280.44	281.35	282.78	282.12	282.27	281.72	281.22

293215098274601. AY-68-29-701 (F-172). Unused artesian well in Edwards aquifer, diam. 10 in., depth 500 ft, casing information not available. Lsd 778.8 ft above msl. Highest water level 74.84 ft below lsd, Oct. 21, 1973; lowest 165.10 ft below lsd, Aug. 17, 1956. Records available 1952-84.

Highest 1983 water level 106.98 ft below lsd on Mar. 27; lowest 1983 water level 135.88 ft below lsd on Sept. 6.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	111.39	111.18	111.17	109.69	124.11	121.55	132.78	128.22	134.40	128.35	124.16	120.47
10	111.34	111.28	113.32	111.13	125.49	119.39	130.41	124.80	130.34	125.96	122.51	120.75
15	112.04	111.26	113.74	113.42	124.19	120.94	126.40	124.75	130.39	124.52	122.80	121.30
20	111.41	110.65	112.65	116.25	122.92	119.20	123.31	127.46	127.90	124.45	122.25	121.10
25	111.14	111.50	108.76	117.66	115.04	123.67	124.18	131.06	126.80	124.57	121.59	123.03
Eom	111.19	111.44	107.71	119.19	117.09	128.96	128.36	132.80	127.60	124.99	121.55	125.37

See footnotes at end of table.

Highest 1984 water level 121.14 ft below lsd on Feb. 3; lowest 1984 water level 155.23 ft below lsd on Aug. 3.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	123.49	121.21	125.19	.....	.....	.....	153.60	154.23	150.08	148.59	.....	133.84
10	122.49	121.91	126.26	.....	.....	147.49	154.14	154.34	151.65	144.56	.....	133.42
15	121.53	122.01	125.40	.....	.....	146.79	153.98	151.02	152.77	.....	.....	133.23
20	122.70	122.50	126.13	140.20	.....	149.15	154.11	151.54	152.50	.....	.....	130.65
25	121.79	123.40	.....	142.69	.....	152.98	153.72	152.52	152.66	.....	.....	130.66
Eom	121.31	124.05	.....	.....	.....	153.85	154.20	154.50	149.22	134.68	134.15	128.06

293617098194001. AY-68-30-211 (G-69). Unused artesian well in Edwards aquifer, diam. 6 in., depth 777 ft, cased to 230 ft. Lsd 776.45 ft above msl. Highest water level 85.70 ft below lsd, Oct. 16, 1973; lowest 154.16 ft below lsd, Aug. 3, 1984. Records available 1964-84.

Highest 1983 water level 116.95 ft below lsd on Mar. 31; lowest 1983 water level 137.65 ft below lsd on Sept. 7.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	119.52	119.17	119.47	117.76	127.66	126.27	134.20	130.55	136.64	132.54	129.60	126.93
10	119.40	119.16	120.33	118.70	129.24	124.93	133.07	129.77	134.64	131.32	128.64	127.04
15	119.78	119.13	120.73	120.24	128.51	125.95	130.92	129.86	134.17	130.06	128.52	127.37
20	119.42	118.75	.....	122.30	128.11	125.28	128.58	131.59	132.67	130.05	128.15	127.13
25	119.21	119.15	.....	123.04	123.46	127.90	128.89	134.08	131.61	129.52	127.76	128.18
Eom	119.11	119.16	116.95	125.07	123.80	131.26	131.65	135.34	132.09	130.01	127.53	129.94

Highest 1984 water level 127.41 ft below lsd on Feb. 4; lowest 1984 water level 154.16 ft below lsd on Aug. 3.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	129.10	127.46	129.86	136.07	146.41	148.25	152.56	153.56	150.78	149.57	138.88	137.51
10	128.47	127.66	130.68	136.42	147.21	147.83	153.33	153.81	151.35	146.86	139.25	137.31
15	127.78	127.84	130.24	138.71	149.20	147.54	153.21	151.52	152.42	142.39	139.55	137.09
20	128.24	128.18	130.71	141.31	144.29	149.18	153.44	150.50	152.34	142.04	138.81	135.53
25	127.79	128.73	132.15	143.65	145.74	151.86	153.37	152.38	152.42	141.22	137.76	135.28
Eom	127.58	129.03	134.51	144.56	146.70	152.86	153.48	153.73	150.11	139.06	137.70	134.27

292845098255401. AY-68-37-203 (J-17)[b/]. Unused artesian well in Edwards aquifer, diam. 6 in., depth 874 ft, cased to 491 ft. Lsd 730.81 ft above msl. Highest water level 34.29 ft below lsd, Oct. 22, 1973; lowest 110.05 ft[c/] below lsd, Aug. 17, 1956. Records available 1932-84[d/].

Highest 1983 water level 60.89 ft below lsd on Mar. 30; lowest 1983 water level 88.70 ft below lsd on Sept. 7.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	64.26	63.94	64.58	62.90	77.37	74.94	.....	81.69	87.06	81.04	76.78	73.00
10	64.15	63.98	65.96	64.28	78.89	72.38	83.31	77.45	83.55	78.71	75.21	73.44
15	64.71	64.14	66.53	66.61	77.32	74.14	79.77	77.87	83.25	76.98	75.22	74.06
20	64.28	63.52	65.46	69.75	76.41	72.97	76.14	80.30	80.64	77.12	74.65	73.63
25	64.03	64.37	62.61	70.38	69.55	76.87	76.82	84.14	79.26	77.17	74.03	75.69
Eom	63.95	64.43	61.10	72.28	71.01	82.28	81.02	85.65	80.20	77.40	73.90	78.02

Highest 1984 water level 73.84 ft below lsd on Feb. 2; lowest 1984 water level 107.64 ft below lsd on July 18.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	76.41	73.94	77.68	86.35	a100.35	101.18	106.00	106.52	102.54	100.94	87.53	86.18
10	75.28	74.39	78.74	86.48	100.60	100.23	106.97	106.99	103.74	97.09	a88.20	85.99
15	74.17	74.81	77.98	89.60	102.77	99.70	106.54	104.00	105.10	91.39	88.83	85.75
20	75.42	75.18	78.72	93.29	95.34	102.12	106.59	103.86	104.79	91.15	87.80	83.59
25	74.18	76.08	80.88	95.91	98.11	105.71	106.54	104.96	105.18	90.38	86.20	83.39
Eom	74.14	76.63	84.10	97.16	99.25	106.48	106.56	106.80	101.38	87.59	86.37	82.55

292244098295801. AY-68-45-102 (CY-175). Unused artesian well in Edwards aquifer, diam. 8 in., depth 2,103 ft, cased to 1,200 ft. Lsd 621.60 ft above msl. Highest water level 65.8 ft above lsd, May 20, 1977; lowest 18.01 ft above lsd, Aug. 2, 1956. Records available 1933-36, 1950-83.

Date	Water level	Date	Water level	Date	Water level
Jan. 25, 1983	e+47.30	Mar. 9, 1983	e+48.00	May 6, 1983	e+51.00

294720098030001. DX-68-16-801 (G-25). Domestic water-table well in Edwards aquifer, diam. 6 in., depth 210 ft, casing information not available. Lsd 752.71 ft above msl. Highest water level 128.19 ft below lsd, June 22, 1981; lowest 169.56 ft below lsd, Oct. 1, 1956. Records available 1936-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 24, 1983	147.39	July 26, 1983	145.20	Apr. 3, 1984	149.26	Sept. 4, 1984	154.95
Feb. 25	147.24	Aug. 26	146.56	May 7	150.20	Sept. 27	155.19
Mar. 28	144.71	Oct. 5	147.56	May 31	150.74	Nov. 1	152.64
Apr. 25	146.74	Dec. 13	148.20	June 26	151.38	Nov. 27	151.80
May 27	145.12	Jan. 31, 1984	148.63	Aug. 3	152.90	Dec. 28	150.82
June 27	142.08	Feb. 28	148.75				

See footnotes at end of table.

294310098080001. DX-68-23-302 (G-49). Unused water-table well in Edwards aquifer, diam. 8 to 3 in., depth 230 ft, cased to 24 ft. Lsd 642.7 ft above msl. Highest water level 12.53 ft below lsd, Apr. 20, 1977; lowest 29.36 ft below lsd, Aug. 21, 1956. Records available 1948-84.

Highest 1983 water level 17.06 ft below lsd on Mar. 29; lowest 1983 water level 19.74 ft below lsd on Sept. 7.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	17.47	17.67	17.48	17.13	18.21	18.00	18.95	18.97	19.56	19.08	18.66	18.32
10	17.43	17.43	17.66	17.15	18.51	17.95	18.99	18.70	19.43	18.94	18.55	18.33
15	17.49	17.19	17.59	17.37	18.39	17.97	18.83	18.71	19.42	18.80	18.52	18.37
20	17.68	17.30	17.64	17.59	a18.17	17.96	18.54	18.87	19.17	18.77	18.54	18.35
25	17.65	17.30	17.34	17.73	17.90	18.15	18.52	19.25	19.10	18.75	18.40	18.40
Eom	.....	17.32	17.11	17.88	17.81	18.56	18.83	19.37	19.02	18.71	18.40	18.63

Highest 1984 water level 18.34 ft below lsd on Jan. 29; lowest 1984 water level 23.09 ft below lsd on Aug. 3.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	18.62	18.41	18.63	19.49	20.91	21.48	22.48	22.98	22.16	21.78	.....	19.97
10	18.54	18.42	18.76	19.59	21.30	21.46	22.69	23.06	22.28	21.44	.....	19.91
15	18.44	18.46	18.75	19.89	21.64	21.51	22.75	22.24	22.44	20.76	.....	19.88
20	18.46	18.48	.....	20.22	20.91	21.74	22.82	22.12	22.61	20.61	.....	19.66
25	18.47	18.54	18.96	20.60	21.06	22.31	22.76	22.58	22.45	20.55	.....	19.59
Eom	18.41	18.56	19.30	20.77	21.25	22.64	22.69	22.98	21.93	20.25	19.99	19.40

293855098125901. DX-68-23-701 (H-20). Domestic artesian well in Edwards aquifer, diam. 4 in., depth 300 ft, cased to 300 ft. Lsd 684.45 ft above msl. Highest water level 17.84 ft below lsd, Oct. 29, 1973; lowest 70.07 ft below lsd, Oct. 2, 1956. Records available 1934, 1937-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 26, 1983	38.73	July 26, 1983	46.12	Feb. 2, 1984	44.49	Aug. 6, 1984	63.83
Feb. 25	38.52	Sept. 2	50.84	Feb. 28	45.55	Sept. 6	61.42
Mar. 28	37.21	Oct. 6	48.32	Apr. 3	49.96	Oct. 2	60.98
Apr. 25	41.20	Oct. 25	46.52	May 7	59.30	Nov. 8	53.07
May 27	41.62	Dec. 13	44.39	May 31	58.68	Nov. 29	51.98
July 1	47.22	Dec. 27	45.65	June 26	62.91	Dec. 28	50.26

293636098190901. DX-68-30-208 (H-36). Unused artesian well in Edwards aquifer, diam. 8 in., depth 292 ft, casing slotted 272-292 ft. Lsd 797.81 ft above msl. Highest water level 111.26 ft below lsd, Oct. 17, 1973; lowest 184.45 ft below lsd, Aug. 18, 1956. Records available 1945, 1955-84.

Highest 1983 water level 139.13 ft below lsd on Mar. 31; lowest 1983 water level 158.74 ft below lsd on Sept. 7.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	.....	141.34	141.59	139.75	148.74	147.50	154.96	153.63	157.97	154.10	151.45	149.04
10	.....	141.31	142.36	140.65	150.72	146.61	154.35	151.56	156.29	153.18	150.44	149.04
15	.....	141.28	142.70	142.10	150.30	147.39	152.64	151.44	155.69	151.99	150.31	149.14
20	.....	140.93	142.39	143.93	149.83	146.93	150.30	152.98	154.44	151.82	150.05	148.91
25	.....	141.23	140.66	144.71	145.30	149.24	150.47	155.29	153.40	151.77	149.69	149.62
Eom	141.25	141.28	139.13	145.98	145.42	151.86	152.99	156.46	153.72	151.76	149.45	151.27

Highest 1984 water level 149.27 ft below lsd on Feb. 3; lowest 1984 water level 175.11 ft below lsd on Aug. 6.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	150.69	149.32	151.47	157.20	.....	169.20	173.39	174.72	172.16	171.01	160.45	159.29
10	150.23	149.45	152.24	157.67	168.08	168.84	174.16	174.80	172.27	168.43	160.76	158.93
15	149.57	149.67	151.93	159.83	169.90	168.72	174.37	173.04	173.42	.....	160.99	158.66
20	149.83	150.06	152.34	162.00	166.07	169.99	174.58	172.70	173.45	.....	160.34	157.27
25	149.55	150.44	153.56	164.33	166.64	172.44	174.52	173.58	173.39	.....	159.42	156.95
Eom	149.44	150.67	155.84	165.51	167.70	173.58	174.33	174.66	171.64	160.67	159.29	156.22

300025097533501. LR-58-57-902 (E-65). Domestic water-table well in Edwards aquifer, diam. 6 in., depth 450 ft, casing information not available. Lsd 821.55 ft above msl. Highest water level 179.86 ft below lsd, May 25, 1977; lowest 247.63 ft below lsd, Aug. 29, 1956. Records available 1943, 1950-52, 1954, 1956, 1958, 1961, 1971-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 24, 1983	223.88	July 26, 1983	200.11	Jan. 31, 1984	222.69	Aug. 2, 1984	232.28
Feb. 25	220.55	Aug. 26	203.73	Feb. 29	225.48	Sept. 4	235.52
Mar. 28	211.59	Sept. 27	204.72	Apr. 3	226.21	Sept. 27	238.35
Apr. 25	203.41	Oct. 25	209.83	May 1	229.53	Nov. 1	225.33
May 27	200.56	Dec. 13	215.54	June 5	227.80	Nov. 27	222.86
June 27	199.15	Dec. 28	221.67	June 27	230.90	Dec. 28	214.86

See footnotes at end of table.

300510097504001. LR-58-58-101 (E-36). Domestic artesian well in Edwards aquifer, diam. 5 in., depth 244 ft, cased to 230 ft. Lsd 707.23 ft above msl. Highest water level 53.05 ft below lsd, Nov. 29, 1973; lowest 167.38 ft below lsd, Aug. 2, 1984. Records available 1937-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 24, 1983	123.04	July 26, 1983	92.67	Jan. 31, 1984	120.25	Aug. 2, 1984	167.38
Feb. 25	135.68	Aug. 26	114.11	Feb. 28	133.55	Sept. 4	145.05
Mar. 28	100.56	Sept. 27	96.69	Apr. 3	139.07	Sept. 27	152.71
Apr. 25	109.04	Oct. 25	100.44	May 1	150.94	Nov. 1	125.57
May 27	99.93	Dec. 13	116.59	June 5	146.25	Nov. 27	124.74
June 27	89.58	Dec. 28	121.94	June 27	151.99	Dec. 28	121.99

295909097523301. LR-67-01-304 (LR-67-02-102) (H-23). Unused artesian well in Edwards aquifer, diam. 5 in., depth 372 fe, cased to 340 ft. Lsd 718.0 ft above msl. Highest water level 124.23 ft below lsd, Mar. 29, 1968; lowest 177.60 ft below lsd, July 10, 1978. Records available 1937-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 24, 1983	152.86	July 26, 1983	150.74	Feb. 28, 1984	135.47	Sept. 4, 1984	173.61
Feb. 25	152.96	Aug. 26	141.10	Apr. 3	142.67	Sept. 27	173.73
Mar. 28	152.72	Sept. 27	140.02	May 1	154.78	Nov. 1	160.98
Apr. 25	157.64	Oct. 25	129.26	June 5	165.31	Nov. 27	165.68
May 27	148.23	Dec. 13	128.28	June 27	170.32	Dec. 28	160.95
June 27	150.48	Jan. 31, 1984	135.52	Aug. 2	170.18		

295344097575001. LR-67-01-701 (H-75a). Domestic artesian well in Edwards aquifer, diam. 6 in., depth and casing information not available. Lsd 734.40 ft above msl. Highest water level 150.63 ft below lsd, June 22, 1981; lowest 177.15 ft below lsd, Nov. 2, 1972. Records available 1954-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 24, 1983	158.73	Aug. 26, 1983	158.05	Jan. 31, 1984	158.85	Sept. 4, 1984	159.25
Feb. 25	158.59	Oct. 3	158.23	Feb. 28	158.69	Sept. 27	159.27
Mar. 28	157.63	Oct. 25	158.42	Apr. 3	160.44	Nov. 1	158.99
Apr. 25	157.78	Dec. 13	158.54	May 31	159.08	Nov. 27	158.88
May 27	156.58	Dec. 28	158.67	July 3	159.05		

295443097554201. LR-67-01-809 (H-49). Domestic water-table well in Edwards aquifer, diam. 34 in., depth and casing information not available. Highest water level 19.73 ft below lsd, June 17, 1981; lowest 27.40 ft below lsd, Sept. 11-18, 16, 26, 28-29, Oct. 3, 6, 1984. Records available 1937, 1950, 1954-55, 1980-84.

Highest 1983 water level 24.80 ft below lsd on May 25, 26; lowest 1983 water level 26.94 ft below lsd on Jan. 12, 13.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	26.91	26.91	26.67	25.40	25.66	24.98	25.10	25.70	26.10	26.23	26.35	26.46
10	26.92	26.90	26.68	25.41	25.77	25.06	25.20	25.71	26.15	26.25	26.36	26.50
15	26.92	26.85	26.65	25.47	25.86	25.16	25.28	25.79	26.17	26.28	26.38	26.56
20	26.89	26.73	26.59	25.51	25.65	25.14	25.34	25.85	26.05	26.32	26.40	26.60
25	26.88	26.72	26.07	25.56	24.80	25.10	25.42	25.95	26.05	26.35	26.41	26.66
Eom	26.89	26.71	25.49	25.60	24.87	24.99	25.61	26.03	26.15	26.35	26.45	26.73

Highest 1984 water level 26.04 ft below lsd on Dec. 31; lowest 1984 water level 27.40 ft below lsd on Sept. 11-18, 26, 28-29, Oct. 3, 6.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	26.75	26.99	26.80	26.94	27.10	27.16	27.13	27.31	27.37	27.39	.....	26.65
10	26.80	26.86	26.81	26.96	27.16	27.10	27.20	27.35	27.38	27.35	.....	26.64
15	26.81	26.74	26.84	26.99	.....	a27.09	27.26	27.33	27.40	27.16	.....	26.66
20	26.85	26.73	26.85	27.01	.....	a27.03	.....	27.32	27.39	27.05	.....	26.38
25	.....	26.70	26.86	27.05	.....	a27.01	.....	.....	27.39	26.96	.....	26.35
Eom	.....	26.79	26.89	a27.06	.....	a27.07	27.30	.....	27.39	26.84	26.66	26.04

295103097583301. LR-67-09-102 (LR-68-16-601) (H-95). Unused artesian well in Edwards aquifer, diam. 6 in., depth 194 ft, casing information not available. Lsd 696.80 ft above msl. Highest water level 108.48 ft below lsd, June 1, 1976; lowest 125.30 ft below lsd, Apr. 11, 1978. Records available 1937-57, 1959-72, 1974-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 24, 1983	120.16	June 27, 1983	117.49	Dec. 13, 1983	120.91	May 7, 1984	120.62
Feb. 25	120.06	July 26	118.48	Dec. 29	121.39	Aug. 3	122.00
Mar. 28	119.38	Aug. 26	120.26	Jan. 31, 1984	120.82	Sept. 4	121.11
Apr. 25	119.29	Oct. 3	119.25	Feb. 28	120.34	Nov. 8	120.67
May 27	117.84	Oct. 25	119.96	Apr. 3	120.36	Nov. 27	120.86

See footnotes at end of table.

295035097585501. LR-67-09-110. SWT farm well. Unused artesian well in Edwards aquifer, diam. 7 in., depth 634 ft, cased to 141.50 ft. Lsd 685.00 ft above msl. Highest water level 92.17 ft below lsd, June 15, 1975; lowest 102.29 ft below lsd, Oct. 6, 1984. Records available 1973-84.

Highest 1983 water level 98.48 ft below lsd on June 27; lowest 1983 water level 101.29 ft below lsd on Feb. 11-12.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	101.28	101.27	101.15	100.27	100.49	99.15	98.75	99.93	100.60	100.76	100.90	101.02
10	101.29	101.28	101.15	100.28	100.46	99.35	99.00	100.02	100.67	100.79	100.97	101.04
15	101.30	101.25	101.14	100.32	100.58	99.49	99.23	100.13	100.71	100.80	100.96	101.10
20	101.26	101.17	101.11	100.36	100.34	99.55	99.39	100.23	100.60	100.84	100.97	101.13
25	101.23	101.15	100.73	100.39	98.89	98.76	99.54	100.35	100.63	100.87	100.97	101.16
Eom	101.24	101.16	100.33	100.43	98.96	98.55	99.77	100.50	100.70	100.91	101.00	101.24

Highest 1984 water level 101.24 ft below lsd on Jan. 5; lowest 1984 water level 102.29 ft below lsd on Oct. 6.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	101.24	101.42	101.29	101.46	101.68	101.84	101.88	102.09	102.20	102.27	101.98	101.82
10	101.29	101.41	101.30	101.46	101.76	101.84	101.90	102.10	102.21	102.25	101.94	101.80
15	101.31	101.33	101.33	101.54	101.80	101.84	101.95	102.11	102.25	102.17	101.92	101.76
20	101.36	101.28	101.34	101.56	101.77	101.79	101.98	102.11	102.26	102.15	101.91	101.62
25	101.36	101.29	101.36	101.61	101.79	101.82	102.02	102.16	102.27	102.10	101.84	101.55
Eom	101.42	101.27	101.44	101.65	101.83	101.85	102.03	102.20	102.27	102.01	101.85	101.40

292519099531701. TD-68-33-604 (J-1-41). Domestic artesian well in Edwards aquifer, diam. 6 in., depth 641 ft, cased to 58 ft. Lsd 846.00 ft above msl. Highest water level 96.90 ft below lsd, Apr. 28, 1977; lowest 217.74 ft below lsd, Aug. 31, 1956. Records available 1930, 1934-46, 1951-52, 1954-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 28, 1983	140.32	June 30, 1983	170.52	Jan. 3, 1984	156.29	June 27, 1984	202.26
Feb. 28	141.58	July 28	158.41	Feb. 5	154.90	Aug. 10	193.44
Apr. 5	140.02	Oct. 7	160.68	Mar. 1	159.22	Nov. 8	175.01
Apr. 27	149.55	Nov. 4	157.12	June 3	196.37	Nov. 30	173.35
May 26	150.73	Dec. 9	153.61				

292110098530001. TD-68-41-301 (J-1-82). Unused artesian well in Edwards aquifer, diam. 6 in., depth 712 ft, casing information not available. Lsd 756.80 ft above msl. Highest water level 19.02 ft below lsd, May 1, 1977; lowest 134.53 ft below lsd, Aug. 18, 1956. Records available 1950-84.

Highest 1983 water level 58.68 ft below lsd on Apr. 4; lowest 1983 water level 89.15 ft below lsd on July 5.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	59.75	59.83	60.81	58.94	78.35	79.58	89.15	79.55	83.39	78.69	75.49	71.99
10	59.69	59.80	62.00	60.72	.....	.....	85.33	76.24	82.01	77.67	73.82	72.10
15	60.29	60.13	62.57	63.02	.....	.....	80.01	75.23	80.56	75.77	73.22	72.58
20	a59.79	59.84	62.50	64.80	78.49	.....	75.84	77.15	79.70	75.45	73.13	72.14
25	59.59	60.25	.....	66.27	.....	79.10	75.47	80.64	77.95	75.61	72.75	73.10
Eom	59.50	60.45	.....	70.58	.....	85.45	78.91	81.93	78.21	75.42	72.63	75.12

Highest 1984 water level 72.32 ft below lsd on Jan. 21; lowest 1984 water level 114.81 ft below lsd on June 30-31.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	74.74	73.38	78.37	89.09	103.49	.....	114.13	.....	107.20	.....	91.57	89.80
10	74.34	73.60	79.33	87.81	106.93	106.85	112.61	109.57	106.32	a101.93	91.60	89.48
15	73.18	74.45	79.34	90.40	108.96	106.89	111.42	108.47	107.85	97.56	91.90	89.01
20	72.33	75.57	80.47	94.04	.....	108.87	111.03	107.08	107.28	95.97	91.47	87.62
25	72.95	76.43	82.53	98.22	.....	112.28	110.39	108.35	107.24	94.99	90.30	87.33
Eom	73.09	76.80	86.96	100.98	.....	114.81	.....	109.05	.....	92.03	89.96	86.52

292618099165901. TD-69-38-601 (I-2-104). Unused water-table well in Edwards aquifer, diam. 7 in., depth 538 ft, cased to 74 ft. Lsd 1,008.3 ft above msl. Highest water level 73.41 ft below lsd, Sept. 1, 1979; lowest 274.60 ft below lsd, Sept. 21, 1957. Records available 1957-84.

Highest 1983 water level 118.23 ft below lsd on Jan. 4; lowest 1983 water level 140.48 ft below lsd on Dec. 31.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	118.30	121.46	123.82	125.55	128.25	129.72	129.35	130.49	131.05	133.56	136.08	138.06
10	118.77	122.00	124.64	126.05	128.81	129.61	129.46	129.64	131.49	133.90	136.24	138.55
15	119.47	122.51	124.94	126.50	129.46	129.24	129.61	129.90	131.85	134.37	136.60	138.77
20	119.76	122.96	125.49	126.69	129.46	128.90	129.81	130.15	132.24	134.76	137.00	139.43
25	120.28	123.58	124.86	127.17	129.20	129.04	129.94	130.44	132.75	.....	137.34	140.01
Eom	120.81	123.90	125.15	127.63	129.54	129.07	130.20	130.72	133.15	.....	137.74	140.48

See footnotes at end of table.

Highest 1984 water level 140.55 ft below lsd on Jan. 1; lowest 1984 water level 177.44 ft below lsd on Dec. 27.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	140.87	143.28	145.86	.....	a153.05	156.50	160.00	164.83	169.26	173.01	174.02	176.35
10	141.19	143.59	146.39	.....	153.99	156.28	160.85	165.60	169.86	173.64	174.40	176.75
15	141.57	144.01	146.84	150.39	154.85	156.84	161.70	166.36	170.54	173.28	174.82	176.76
20	142.00	144.58	147.40	150.88	155.50	157.55	.....	166.95	171.15	.....	175.29	176.97
25	142.31	144.96	.....	151.66	156.30	158.35	163.21	167.68	171.83	.....	175.54	177.38
Eom	142.88	145.50	.....	152.50	157.23	159.14	164.05	168.54	172.51	173.41	175.89	176.60

291550099211001. TD-69-46-701 (I-4-12). Domestic artesian well in Edwards aquifer, diam. 8 in., depth 1,303 ft, casing information not available. Lsd 950.00 ft above msl. Highest water level 132.42 ft below lsd, Apr. 28, 1977; lowest 291.37 ft below lsd, Aug. 31, 1956. Records available 1930, 1934, 1937-38, 1940-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 4, 1983	188.67	July 29, 1983	210.60	Dec. 31, 1983	206.19	Aug. 8, 1984	248.48
Mar. 31	188.72	Sept. 5	208.43	Feb. 4, 1984	205.60	Oct. 4	243.24
Apr. 30	200.18	Oct. 6	208.17	Mar. 3	215.31	Nov. 7	235.21
May 31	204.56	Nov. 3	208.00	Apr. 1	220.14	Dec. 7	233.74
June 28	209.90	Dec. 10	206.67	June 29	253.00		

292209099094801. TD-69-47-302 (I-3-148). Unused artesian well in Edwards aquifer, diam. 5 in., depth 1,410 ft, casing information not available. Lsd 956.1 ft above msl. Highest water level 182.26 ft below lsd, May 18, 1977; lowest 294.74 ft below lsd, June 15, 1971. Records available 1960-84.

Highest 1983 water level 230.50 ft below lsd on Jan. 9; lowest 1983 water level 263.06 ft below lsd on July 3.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	230.70	231.28	232.79	231.67	252.86	250.60	262.84	252.02	251.39	248.72	248.72	245.75
10	230.70	231.30	233.88	233.54	255.12	244.95	258.34	248.33	250.44	247.21	247.21	246.00
15	231.37	231.87	234.54	235.97	253.88	247.63	253.17	247.38	248.93	246.42	246.42	246.44
20	230.85	231.87	234.61	237.55	251.86	246.62	249.37	249.18	248.52	246.57	246.57	246.00
25	230.73	232.16	232.67	238.86	243.93	253.21	248.75	253.05	248.80	246.46	246.46	246.91
Eom	230.77	232.62	231.23	244.84	246.91	260.14	251.98	253.88	248.76	246.33	246.33	248.47

Highest 1984 water level e/247.80 ft below lsd on Feb. 5; lowest 1984 water level 294.54 ft below lsd on a/June 27.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	248.45	e247.80	253.95	265.53	283.21	288.30	.....	.....	285.76	[illegible]3.60	271.27	269.83
10	248.17	248.41	254.89	262.56	287.32	284.36	.....	288.74	.....	281.17	271.27	269.51
15	.....	249.46	255.11	266.39	289.80	286.43	.....	287.66	286.94	277.11	271.27	269.25
20	.....	250.71	256.50	272.72	279.76	289.34	.....	285.86	286.24	275.63	271.27	267.80
25	.....	251.85	258.99	a277.87	284.55	293.36	.....	287.35	286.39	274.33	270.32	267.62
Eom	.....	251.93	263.93	279.24	289.24	.....	.....	288.07	284.44	271.73	269.89	266.55

292110099054501. TD-69-48-102 (I-3-146). Irrigation artesian well in Edwards aquifer, diam. 12 in., depth 1,654 ft, cased to 1,320 ft. Lsd 867.2 ft above msl. Highest water level 95.26 ft below lsd, Apr. 28, 1977; lowest 257.36 ft below lsd, Aug. 14, 1963. Records available 1958-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 28, 1983	143.25	July 28, 1983	162.23	Dec. 31, 1983	160.05	Aug. 7, 1984	201.17
Feb. 28	144.82	Sept. 5	167.16	Feb. 5, 1984	158.83	Oct. 4	195.40
Apr. 1	143.57	Oct. 7	164.17	Mar. 4	165.19	Nov. 7	182.21
Apr. 27	153.46	Nov. 3	161.19	Apr. 10	174.10	Nov. 30	181.08
May 31	159.07	Dec. 11	157.65	June 26	209.10		

292339099401501. YP-69-35-602 (YP-69-35-501) (H-2-23). Unused water-table well in Edwards aquifer, diam. 7 in., depth 237 ft, cased to 57 ft. Lsd 1,170.8 ft above msl. Highest water level 23.52 ft below lsd, July 18, 1976; lowest 69.15 ft below lsd, Jan. 28, 1964. Records available 1957-84.

Highest 1983 water level 49.13 ft below lsd on Nov. 9; lowest 1983 water level 66.62 ft below lsd on Sept. 7.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	65.78	65.79	65.35	65.48	65.84	65.39	65.15	.....	66.40	66.07	52.09	58.20
10	65.79	65.78	65.40	65.61	65.84	63.08	65.16	.....	66.10	63.32	49.16	59.44
15	65.81	65.80	65.37	65.72	65.89	64.65	65.42	.....	66.22	64.02	50.15	60.54
20	65.75	65.77	65.56	65.69	65.81	62.84	65.56	.....	66.33	63.42	52.71	61.82
25	65.66	65.77	65.49	65.72	64.95	64.21	65.70	.....	66.21	60.07	55.29	63.23
Eom	65.70	65.75	65.22	65.75	65.26	64.66	65.81	66.14	66.19	60.93	57.23	64.07

See footnotes at end of table.

Highest 1984 water level 47.00 ft below lsd on Nov. 7; lowest 1984 water level 68.55 ft below lsd on Oct. 10.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	64.12	64.78	65.37	65.75	66.21	67.45	67.89	68.09	68.35	68.50	47.04	52.67
10	61.62	64.83	65.43	65.74	66.51	67.52	67.95	68.17	68.41	68.55	47.21	53.30
15	62.91	64.90	65.50	65.84	66.86	67.61	68.01	68.25	68.38	67.30	48.98	52.70
20	63.90	65.10	65.59	65.81	67.02	67.70	68.06	68.27	68.23	67.71	50.50	52.14
25	64.29	65.11	65.59	66.00	67.20	67.75	68.11	68.31	68.41	67.97	51.40	52.24
Eom	64.60	65.35	65.70	66.15	67.35	67.80	67.86	68.37	68.37	48.82	52.18	36.45

292711099282201. YP-69-37-402. Unused water-table well in Edwards aquifer, diam. 6 in., depth 694 ft, cased to 233 ft. Lsd 1,158 ft above msl. Highest water level 256.05 ft below lsd, July 21, 1977; lowest 385.67 ft below lsd, Dec. 25, 1984. Records available 1974-84.

Highest 1983 water level 324.84 ft below lsd on Jan. 4; lowest 1983 water level 348.95 ft below lsd on Dec. 29.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	324.94	328.08	330.43	.....	334.90	337.35	336.26	338.66	339.89	342.71	345.60	346.74
10	325.32	328.56	331.03	332.91	335.40	336.91	336.60	338.52	340.43	343.23	345.24	347.08
15	326.15	328.94	331.13	.....	336.21	337.01	336.97	338.29	340.80	343.67	345.50	347.57
20	326.37	329.38	331.80	.....	336.79	336.21	337.50	338.66	341.29	344.01	345.81	347.78
25	.....	329.95	331.90	.....	336.74	335.87	337.74	339.13	341.79	344.74	346.09	348.34
Eom	.....	330.20	332.10	334.32	336.91	335.86	338.19	339.50	342.22	345.17	346.47	348.63

Highest 1984 water level 348.64 ft below lsd on Jan. 1; lowest 1984 water level 385.67 ft below lsd on Dec. 25.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	348.79	349.97	351.46	354.20	357.74	363.19	367.73	.....	378.08	381.69	383.71	384.75
10	349.32	349.99	351.89	354.51	358.62	363.68	368.72	374.26	378.58	382.37	383.63	384.92
15	349.02	350.29	352.26	355.30	359.56	364.34	369.76	375.08	.....	382.49	383.82	385.23
20	349.32	350.82	352.75	355.42	360.35	365.15	370.64	375.66	.....	382.68	384.39	385.24
25	349.41	350.72	353.02	356.19	361.25	365.92	371.64	376.43	.....	383.22	384.07	385.67
Eom	349.80	351.32	353.70	357.27	362.34	366.75	372.57	377.30	.....	383.36	384.41	384.80

291633099413301. YP-69-43-804. Irrigation artesian well in Edwards aquifer, diam. 16 in., depth 967 ft, cased to 365 ft. Lsd 975.00 ft above msl. Highest water level 80.28 ft below lsd, May 26, 1977; lowest 305.60 ft below lsd, Dec. 7, 1971. Records available 1971-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31, 1983	129.44	Apr. 30, 1983	126.14	July 29, 1983	157.10	Feb. 2, 1984	179.61
Mar. 4	124.21	May 30	145.50	Sept. 5	172.30	Nov. 7	293.59
Mar. 31	118.18	June 28	153.33	Oct. 31	173.39	Dec. 7	305.60

291909099281001. YP-69-45-401 (I-4-35) (I-4-4). Unused artesian well in Edwards aquifer, diam. 10 in., depth 1,476 ft, cased to 937 ft. Lsd 954.04 ft above msl. Highest water level 118.64 ft below lsd, May 20, 1977; lowest 290.03 ft below lsd, Oct. 13, 1956. Records available 1956-84.

Highest 1983 water level 178.96 ft below lsd on Jan. 9; lowest 1983 water level 207.82 ft below lsd on July 4.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	179.11	180.28	182.11	182.48	.....	.....	207.76	201.27	f201.80	200.37	199.44	197.39
10	179.11	180.50	183.23	183.67	.....	.....	204.60	197.98	201.48	200.30	197.54	198.01
15	179.90	181.14	183.92	185.30	.....	.....	202.36	197.27	201.09	199.70	197.08	197.91
20	179.43	181.22	183.90	185.98	.....	.....	200.30	198.11	200.90	199.39	197.45	197.80
25	179.50	181.75	183.02	187.90	.....	.....	199.79	199.98	200.53	199.49	197.74	197.98
Eom	179.64	182.10	182.27	192.70	e198.20	204.96	201.85	200.26	200.40	199.59	197.74	198.60

Highest 1984 water level 198.52 ft below lsd on Jan. 23; lowest 1984 water level 247.93 ft below lsd on July 5.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	199.12	199.97	206.29	214.28	228.08	236.51	246.56	242.79	239.50	238.36	230.45	228.20
10	199.29	201.86	206.39	212.23	231.81	232.07	247.49	242.29	238.99	237.76	230.11	227.80
15	198.79	203.08	207.85	215.11	234.27	234.95	245.73	241.02	240.00	235.30	229.90	227.38
20	198.71	203.64	209.62	218.43	231.00	237.56	245.04	239.50	239.64	233.93	229.74	226.71
25	198.72	204.59	210.76	223.29	232.51	241.76	244.11	239.78	239.46	233.30	228.81	226.69
Eom	199.14	204.58	213.76	225.83	236.22	245.51	242.26	240.37	239.16	231.05	228.49	223.87

291426099510201. YP-69-50-101 (H-4-6). Stock artesian well in Edwards aquifer, diam. 8 in., depth 100 ft, casing information not available. Lsd 950.6 ft above msl. Highest water level 48.15 ft below lsd, May 29, 1980; lowest 126.17 ft below lsd, Mar. 14, 1957. Records available 1929-33, 1935-42, 1944-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31, 1983	60.88	June 28, 1983	64.15	Dec. 10, 1983	63.27	May 3, 1984	70.74
Mar. 4	62.04	July 29	64.99	Dec. 30	63.32	June 2	72.35
Mar. 31	61.87	Aug. 30	65.05	Feb. 4, 1984	64.00	Aug. 8	77.67
Apr. 29	63.19	Oct. 1	65.64	Mar. 3	66.63	Nov. 6	76.52
May 30	64.91	Oct. 30	65.23	Apr. 5	64.25	Dec. 6	76.85

See footnotes at end of table.

291414099475301. YP-69-50-202. Unused artesian well in Edwards aquifer, diam. 6 in., depth 137 ft, cased 65 ft. Lsd 928.00 ft above msl. Highest water level 33.10 ft below lsd, Apr. 6, 1977; lowest water level 115.02 ft below lsd, Mar. 11, 1957. Records available 1956-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31, 1983	46.98	May 30, 1983	51.57	Aug. 30, 1983	52.90	Dec. 11, 1983	51.94
Mar. 5	48.00	June 29	51.15	Oct. 1	53.33	Feb. 5, 1984	52.67
Apr. 30	49.66	July 30	53.05	Oct. 30	53.27	Mar. 4	54.32

291237099471201. YP-69-50-302 (H-5-1). Unused artesian well in Edwards aquifer, diam. 12 in., depth 350 ft, casing information not available. Lsd 904.9 ft above msl. Highest water level 18.64 ft below lsd, May 23, 1977; lowest 93.90 ft below lsd, Apr. 13, 1957. Records available 1929-32, 1934-84.

Highest 1983 water level 27.80 ft below lsd on Jan. 9-10; lowest 1983 water level 33.60 ft below lsd on Oct. 8.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	27.82	28.07	28.84	28.89	30.28	31.98	32.62	33.10	33.33	33.44	33.06	.....
10	27.80	28.15	28.85	29.00	30.68	32.06	32.76	33.00	33.20	33.43	.....	e32.19
15	27.86	28.45	28.85	29.14	30.96	32.08	.....	32.90	33.17	.....	.....	32.05
20	27.95	28.52	28.89	29.35	31.25	32.12	.....	32.92	33.00	.....	.....	32.04
25	27.90	28.65	28.84	29.61	31.44	32.28	.....	33.13	33.06	.....	.....	31.98
Eom	27.99	28.75	28.79	29.90	31.69	32.40	.....	33.23	33.18	.....	.....	31.92

Highest 1984 water level 31.59 ft below lsd on Jan. 26; lowest 1984 water level 48.01 ft below lsd on Sept. 28.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	31.79	32.74	34.24	35.41	37.81	40.59	44.20	46.94	47.46	47.87	45.32	44.08
10	31.64	32.75	34.41	35.44	38.43	41.07	44.88	47.16	47.58	47.89	45.10	44.37
15	31.62	33.04	34.56	35.81	39.03	41.29	45.52	47.30	47.70	47.01	44.98	44.23
20	31.60	.....	34.58	36.19	39.39	41.68	45.95	47.35	47.75	46.55	44.86	44.06
25	31.61	.....	34.70	36.65	39.68	42.39	46.39	47.47	47.88	46.11	44.68	43.94
Eom	31.71	.....	34.94	37.26	40.02	43.35	46.56	47.57	47.90	45.61	44.58	43.15

291127099501201. YP-69-50-403 (H-4-60). Unused artesian well in Edwards aquifer, diam. 10 in., depth 536 ft, casing information not available. Lsd 918.9 ft above msl. Highest water level 39.19 ft below lsd, May 26, 1977; lowest 111.31 ft below lsd, Feb. 13, 1957. Records available 1954, 1957, 1961-82, 1984.

Date	Water level	Date	Water level	Date	Water level
Feb. 5, 1984	49.10	Mar. 3, 1984	51.24	Dec. 6, 1984	57.02

291025099442701. YP-69-51-406 (H-5-259). Unused water-table well in Leona Formation, diam. 14 in., depth 74 ft, casing information not available. Lsd 874.9 ft above msl. Highest water level 23.25 ft below lsd, June 6, 1979; lowest 61.38 ft below lsd, Mar. 13, 1957. Records available 1956-57, 1966-84.

Highest 1983 water level 28.22 ft below lsd on Jan. 9; lowest 1983 water level 34.02 ft below lsd on June 4.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	28.29	30.27	29.09	28.08	32.85	33.71	32.55	32.20	30.27	30.00	30.32	29.95
10	28.25	30.46	28.74	28.48	33.56	31.43	33.19	a31.16	30.10	30.35	29.72	29.79
15	28.60	30.12	28.91	28.76	33.49	30.59	32.75	a30.85	30.09	30.39	29.80	30.24
20	28.69	30.10	28.96	28.87	33.58	30.55	31.95	30.55	29.76	30.23	29.94	29.90
25	28.55	30.52	28.32	30.10	33.39	30.76	31.72	30.68	29.57	29.77	30.15	29.90
Eom	f29.41	29.84	28.07	32.10	33.57	31.49	33.56	30.34	29.64	30.22	30.21	30.25

Highest 1984 water level 30.88 ft below lsd on Jan. 21; lowest 1984 water level f/41.38 ft below lsd on Aug. 19.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	30.55	32.89	33.31	33.08	36.05	37.67	39.77	.....	40.34	40.74	34.25	34.11
10	30.84	34.33	33.17	33.37	37.31	37.07	39.84	41.05	40.60	40.41	34.08	33.62
15	30.40	34.52	33.03	33.73	36.85	36.64	39.62	40.77	40.86	38.27	34.32	33.32
20	30.13	34.20	32.90	34.69	36.77	36.53	39.13	f41.16	40.85	36.72	34.53	33.06
25	30.65	24.29	31.94	35.12	36.99	37.70	a38.76	f40.98	40.80	35.58	34.20	32.84
Eom	31.36	33.87	32.08	35.24	36.69	38.56	.....	40.20	40.88	34.70	34.15	32.29

292344100002701. YP-70-40-901 (G-3-19). Unused water-table well in Edwards aquifer, diam. 7 in., depth 140 ft, cased to 70 ft. Lsd 1,122.0 ft above msl. Highest water level 38.85 ft below lsd, Sept. 15, 1974; lowest 42.95 ft below lsd, Sept. 19, 1964. Records available 1957-84.

Highest 1983 water level 41.77 ft below lsd on May 19-20; lowest 1983 water level 42.46 ft below lsd on Sept. 17.

Highest water level for the day, from recorder graph, 1983

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	42.30	42.30	42.29	42.32	42.30	42.24	42.35	42.40	42.43	42.34	42.20	42.32
10	42.30	42.31	42.31	42.33	42.26	42.30	42.34	42.35	42.44	42.30	42.03	42.33
15	42.31	42.30	42.30	42.34	42.27	42.32	42.36	42.39	42.45	42.30	42.16	42.36
20	42.31	42.30	42.31	42.34	41.77	42.30	42.35	42.41	42.30	42.30	42.24	42.36
25	42.29	42.30	42.30	42.01	42.20	42.31	42.37	42.43	42.32	42.18	42.27	42.39
Eom	42.30	42.30	42.31	42.20	42.27	42.33	42.40	42.41	42.34	42.27	42.30	42.39

See footnotes at end of table.

Table 7.--Water levels in observations wells in the Edwards aquifer, 1983-84--Continued

Highest 1984 water level 39.84 ft below lsd on Dec. 31; lowest 1984 water level 42.89 ft below lsd on Sept. 13-14.

Highest water level for the day, from recorder graph, 1984

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
5	42.40	42.39	42.41	42.41	42.45	42.54	42.66	42.78	42.85	42.86	42.17	42.34
10	42.39	42.40	42.41	42.39	42.46	42.52	42.70	42.81	42.86	42.86	42.21	42.36
15	42.40	42.40	42.40	42.40	42.47	42.55	42.72	42.84	42.88	42.51	42.26	42.35
20	42.41	42.40	42.39	42.40	42.47	42.59	42.71	42.84	42.85	42.50	42.30	42.34
25	42.40	42.39	42.38	42.42	42.50	42.60	42.75	42.85	42.87	42.54	42.30	42.35
Eom	42.40	42.40	42.40	42.44	42.50	42.64	42.75	42.87	42.86	42.12	42.32	39.49

291412100033001. YP-70-56-201 (G-6-4). Domestic water-table well in Austin Chalk, diam. 6 in., depth 120 ft, casing information not available. Lsd 1,008.00 ft above msl. Highest water level 34.00 ft below lsd, Dec. 1, 1976; lowest 77.78 ft below lsd, Apr. 8, 1953. Records available 1937-84.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31, 1983	43.25	Oct. 1, 1983	49.33	Mar. 3, 1984	47.29	Sept. 11, 1984	54.99
Mar. 31	44.90	Oct. 30	49.58	Apr. 5	48.34	Oct. 9	55.16
May 30	48.75	Dec. 10	48.61	May 3	49.13	Nov. 6	53.16
July 29	49.70	Feb. 4, 1984	46.57	Aug. 8	53.31	Dec. 6	53.93
Aug. 30	49.17						

a Estimated.
b Replaces well 26 and reflects the same water level; composite record of wells 26 and AY-68-37-203.
c Record low for well 26. Equivalent water level for AY-68-37-203 would be 118.30 ft below lsd.
d Composite record of wells 26 and AY-68-37-203.
e Measured.
f Nearby well pumping.

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84

ATASCOSA COUNTY

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)
AL-68-50-201	84-05-01	1400	2380	30	500	779	7.4	38.0	190	--
	84-07-12	1845	2380	25	500	780	7.7	38.0	190	--
AL-68-50-301	84-05-01	1100	2500	120	1000	592	7.2	32.0	180	--
	84-07-04	1445	2500	420	1000	620	7.3	32.0	190	--
	84-07-18	1310	2500	370	1000	616	7.2	32.0	200	--
	84-08-10	1035	2500	210	1000	646	7.2	32.5	200	--
AL-68-51-101	84-07-12	1025	2650	1440	1400	2110	7.2	40.0	200	--
	84-07-18	1405	2650	1440	1400	2130	7.2	40.5	200	--
	84-08-10	0945	2650	30	831	2140	7.2	40.5	180	--

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
AL-68-50-201	84-05-01	--	--	--	--	--	--	--	--	--
	84-07-12	--	--	300	110	73	29	22	2.3	160
AL-68-50-301	84-05-01	--	--	--	--	--	--	--	--	--
	84-07-04	--	--	270	77	72	21	18	1.8	70
	84-07-18	--	--	--	--	--	--	--	--	--
	84-08-10	--	--	--	--	--	--	--	--	--
AL-68-51-101	84-07-12	--	--	990	790	260	82	130	7.4	680
	84-07-18	--	--	--	--	--	--	--	--	--
	84-08-10	--	--	--	--	--	--	--	--	--

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)
AL-68-50-201	84-05-01	--	--	--	--	--	--	--	--	--
	84-07-12	41	2.3	16	460	--	.090	--	<.010	--
AL-68-50-301	84-05-01	--	--	--	--	--	--	--	--	--
	84-07-04	32	.50	13	340	--	.010	--	<.010	--
	84-07-18	--	--	--	--	--	--	--	--	--
	84-08-10	--	--	--	--	--	--	--	--	--
AL-68-51-101	84-07-12	260	2.7	17	1600	--	.460	--	<.010	--
	84-07-18	--	--	--	--	--	--	--	--	--
	84-08-10	--	--	--	--	--	--	--	--	--

LOCAL IDENTIFIER	DATE OF SAMPLE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
AL-68-50-201	84-05-01	--	--	--	--	--
	84-07-12	--	--	<.10	--	--
AL-68-50-301	84-05-01	--	--	--	--	--
	84-07-04	--	--	.44	--	--
	84-07-18	--	--	--	--	--
	84-08-10	--	--	--	--	--
AL-68-51-101	84-07-12	--	--	<.10	--	--
	84-07-18	--	--	--	--	--
	84-08-10	--	--	--	--	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)
AY-68-21-804	83-03-29	1000	279	30	10	575	7.0	23.5	270	--
	84-08-15	1105	279	55	5.0	580	6.6	24.0	270	--
AY-68-27-302	83-08-09	0930	517	30	10	505	7.0	23.0	240	--
AY-68-27-303	83-08-02	0915	427	60	15	524	7.0	22.5	250	<1
	84-08-16	1425	427	30	10	530	6.8	22.5	250	--
AY-68-27-503	83-08-01	1205	435	20	275	514	7.2	22.0	230	--
AY-68-27-504	83-08-01	1125	508	20	525	527	7.2	23.0	230	--
AY-68-28-202	83-08-12	0840	457	30	95	482	--	23.0	240	--
	84-06-21	1220	457	260	95	520	7.1	23.5	250	--
AY-68-28-203	83-08-12	0920	435	20	230	486	--	23.5	240	--
AY-68-28-501	83-08-12	0805	468	20	110	523	7.1	23.0	250	--
AY-68-28-502	83-08-12	0730	506	20	130	546	7.3	23.5	270	--
	84-06-21	1420	506	55	130	540	7.1	24.0	260	--
AY-68-28-508	83-08-03	1025	396	30	150	417	7.4	23.0	180	--
	84-08-13	1205	396	245	150	450	7.4	23.0	200	--
AY-68-28-607	83-06-21	0930	403	30	70	708	6.8	21.5	310	<1
AY-68-28-608	83-08-04	0830	500	60	15	516	6.9	22.0	250	--
AY-68-28-702	83-03-04	0935	450	30	1350	555	7.3	22.0	--	--
	83-09-02	1330	450	30	1350	551	--	23.0	--	--
AY-68-28-806	83-03-08	0916	860	18	2800	549	6.9	22.0	--	--
AY-68-28-807	83-03-08	0802	685	18	3500	536	6.8	22.0	--	--
AY-68-28-809	83-03-02	0930	750	16	1500	528	7.2	22.5	--	--
AY-68-28-902	83-02-10	0943	811	5	2800	644	--	22.0	300	--
	83-02-10	0948	811	10	2800	642	7.0	22.0	300	--
	83-02-10	1008	811	30	2800	646	7.0	22.0	300	--
	83-02-16	0910	811	5	2800	642	7.0	22.0	300	--
	83-02-16	0915	811	10	2800	642	7.0	22.0	300	--
	83-02-16	0935	811	30	2800	642	7.0	22.0	300	--
	83-07-19	1325	811	35	2800	616	7.0	22.5	290	--
	83-11-04	1445	811	40	2800	655	6.9	22.0	300	--
	84-06-14	1335	811	40	2800	670	6.9	22.0	310	--
	84-08-16	1115	811	120	2800	--	6.9	23.0	--	--
AY-68-28-903	83-02-03	0905	762	5	3500	655	6.9	21.5	300	--
	83-02-03	0910	762	10	3500	668	7.0	21.0	300	--
	83-02-03	0930	762	30	3500	684	7.0	21.5	310	--

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
AY-68-21-804	83-03-29	--	--	310	41	120	2.6	3.3	.70	2.4
	84-08-15	--	--	290	16	110	2.5	3.3	.70	1.9
AY-68-27-302	83-08-09	--	--	--	--	--	--	--	--	--
AY-68-27-303	83-08-02	<1	<1	270	18	91	9.7	5.6	.80	8.8
	84-08-16	--	--	260	10	88	9.7	5.3	.90	8.9
AY-68-27-503	83-08-01	--	--	250	24	75	16	7.6	.90	19
AY-68-27-504	83-08-01	--	--	250	20	77	14	8.8	1.5	27
AY-68-28-202	83-08-12	--	--	240	1	84	7.6	5.6	1.3	8.0
	84-06-21	--	--	250	4	80	13	5.7	1.2	11
AY-68-28-203	83-08-12	--	--	240	4	81	10	5.3	1.0	10
AY-68-28-501	83-08-12	--	--	260	8	94	5.6	6.4	1.1	8.0
AY-68-28-502	83-08-12	--	--	270	0	94	8.6	6.1	1.0	6.0
	84-06-21	--	--	260	3	82	14	6.0	1.1	12
AY-68-28-508	83-08-03	--	--	200	22	68	7.8	6.3	.80	15
	84-08-13	--	--	210	15	71	9.0	5.9	.80	14
AY-68-28-607	83-06-21	<1	<1	340	34	130	4.6	11	2.3	27
AY-68-28-608	83-08-04	--	--	250	0	92	4.9	5.8	1.1	9.0
AY-68-28-702	83-03-04	--	--	--	--	--	--	--	--	--
	83-09-02	--	--	--	--	--	--	--	--	--
AY-68-28-806	83-03-08	--	--	--	--	--	--	--	--	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)
AY-68-28-807	83-03-08	--	--	--	--	--	--	--	--	--
AY-68-28-809	83-03-02	--	--	--	--	--	--	--	--	--
AY-68-28-902	83-02-10	--	--	--	--	--	--	--	--	--
	83-02-10	--	--	--	--	--	--	--	--	--
	83-02-10	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	320	21	110	11	13	1.4	19
	83-07-19	--	--	300	10	100	12	13	1.4	18
	83-11-04	--	--	320	25	110	12	13	1.4	18
	84-06-14	--	--	320	15	110	12	14	1.3	15
	84-08-16	--	--	320	--	110	12	13	1.5	15
AY-68-28-903	83-02-03	--	--	310	8	100	14	17	1.4	21
	83-02-03	--	--	--	--	--	--	--	--	--
	83-02-03	--	--	330	19	110	13	20	1.6	22

LOCAL IDENT-I-FIER	DATE OF SAMPLE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	IODIDE, DIS-SOLVED (MG/L AS I)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
AY-68-21-804	83-03-29	11	<.10	13	--	320	6.5	--	<.060	--
	84-08-15	10	<.10	12	--	300	6.2	--	<.010	--
AY-68-27-302	83-08-09	--	--	--	--	--	2.2	--	.060	--
AY-68-27-303	83-08-02	12	.10	11	<.001	290	3.1	--	.030	--
	84-08-16	10	.10	11	--	280	--	--	<.010	--
AY-68-27-503	83-08-01	14	.20	12	<.001	280	2.2	--	.040	--
AY-68-27-504	83-08-01	14	.30	10	.006	290	1.4	--	.060	--
AY-68-28-202	83-08-12	9.3	.20	12	--	270	1.4	--	.040	--
	84-06-21	9.5	.20	12	--	280	1.1	--	.020	--
AY-68-28-203	83-08-12	10	.20	4.7	--	270	1.4	--	.050	--
AY-68-28-501	83-08-12	14	.10	13	--	290	1.6	--	.050	--
AY-68-28-502	83-08-12	14	.20	13	--	300	1.3	--	.040	--
	84-06-21	10	.30	12	--	290	1.1	--	.030	--
AY-68-28-508	83-08-03	12	.20	11	<.001	230	2.6	--	.030	--
	84-08-13	12	.20	11	--	240	2.6	--	<.010	--
AY-68-28-607	83-06-21	17	.10	16	.008	390	3.5	--	<.060	--
AY-68-28-608	83-08-04	10	.10	12	<.001	280	2.5	--	.060	--
AY-68-28-702	83-03-04	--	--	--	--	--	--	--	--	--
	83-09-02	--	--	--	--	--	--	--	--	--
AY-68-28-806	83-03-08	--	--	--	--	--	--	--	--	--
AY-68-28-807	83-03-08	--	--	--	--	--	--	--	--	--
AY-68-28-809	83-03-02	--	--	--	--	--	--	--	--	--
AY-68-28-902	83-02-10	--	--	--	--	--	--	--	--	--
	83-02-10	--	--	--	--	--	--	--	--	--
	83-02-10	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	--	.001	--	2.3	--	.060	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-02-16	16	.20	14	.003	360	2.6	--	.060	--
	83-07-19	17	.20	14	.002	350	2.4	--	.060	--
	83-11-04	18	.20	14	--	370	2.6	--	.030	--
	84-06-14	18	.20	14	--	370	2.5	--	.040	--
	84-08-16	15	.20	13	--	--	--	<.010	--	<.010
AY-68-28-903	83-02-03	21	.20	14	.092	370	2.4	--	.070	--
	83-02-03	--	--	--	--	--	--	--	--	--
	83-02-03	23	.20	15	.120	390	2.4	--	.090	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
AY-68-21-804	83-03-29	<.020	1.3	5.2	--	.070	1.3
	84-08-15	<.010	.60	5.6	--	.030	1.1
AY-68-27-302	83-08-09	<.020	.50	1.7	--	.040	.80
AY-68-27-303	83-08-02	<.020	.60	2.5	--	.020	.30
	84-08-16	<.010	--	2.4	--	<.010	.60
AY-68-27-503	83-08-01	<.020	.60	1.6	--	.030	.90
AY-68-27-504	83-08-01	<.020	.50	.90	--	.080	1.1
AY-68-28-202	83-08-12	<.020	.40	1.0	--	.020	.30
	84-06-21	.010	.30	.80	--	.010	.20
AY-68-28-203	83-08-12	<.020	.50	.90	--	.030	.40
AY-68-28-501	83-08-12	<.020	.60	1.0	--	.020	.40
AY-68-28-502	83-08-12	<.020	.40	.90	--	.020	.30
	84-06-21	<.010	.30	.80	--	.010	.40
AY-68-28-508	83-08-03	<.020	.60	2.0	--	.020	.30
	84-08-13	<.010	.50	2.1	--	.020	2.3
AY-68-28-607	83-06-21	<.020	.80	2.7	--	.010	1.1
AY-68-28-608	83-08-04	<.020	1.3	1.2	--	.020	.20
AY-68-28-702	83-03-04	--	--	--	--	--	--
	83-09-02	--	--	--	--	--	--
AY-68-28-806	83-03-08	--	--	--	--	--	--
AY-68-28-807	83-03-08	--	--	--	--	--	--
AY-68-28-809	83-03-02	--	--	--	--	--	--
AY-68-28-902	83-02-10	--	--	--	--	--	--
	83-02-10	--	--	--	--	--	--
	83-02-10	--	--	--	--	--	--
	83-02-16	<.020	.50	1.8	--	.060	59
	83-02-16	--	--	--	--	--	--
	83-02-16	<.020	.70	1.9	--	.010	.70
	83-07-19	<.020	.60	1.8	--	.220	.40
	83-11-04	<.020	.90	1.7	--	.010	.70
	84-06-14	<.010	.80	1.7	--	<.010	.70
	84-08-16	--	--	--	1.7	--	.60
AY-68-28-903	83-02-03	<.020	.70	1.7	--	.010	.80
	83-02-03	--	--	--	--	--	--
	83-02-03	<.020	.70	1.7	--	.010	.80

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, INMED. (COLS. PER 100 ML)
AY-68-28-903	83-02-03	1000	762	60	3500	697	7.0	21.5	--	--
	83-02-03	1100	762	120	3500	707	--	21.5	320	--
	83-02-16	1310	762	5	3500	680	6.9	21.5	300	--
	83-02-16	1315	762	10	3500	686	7.0	21.5	310	--
	83-02-16	1335	762	30	3500	685	7.0	21.5	310	--
	83-02-16	1405	762	60	3500	691	7.0	21.5	320	--
	83-02-16	1505	762	120	3500	695	7.0	21.5	320	--
	83-06-24	1350	556	60	3500	716	7.0	22.5	320	--
	83-11-03	1430	762	60	3400	693	7.0	22.0	320	--
	84-06-14	1105	762	45	3500	840	6.8	22.0	370	--
	84-08-16	1330	762	--	3500	740	6.7	23.0	--	--
	84-08-25	1252	762	70	3400	740	7.0	22.0	330	--
AY-68-28-904	83-02-07	1000	640	1440	480	603	7.0	22.0	--	--
	83-02-15	0950	640	1440	480	596	7.1	22.0	270	--
	83-08-30	1020	640	1440	480	585	7.2	22.5	270	--
AY-68-28-905	83-02-09	1026	856	18	1800	693	7.1	22.0	260	--
	83-02-15	1036	856	10	1800	591	7.0	22.0	280	--
	83-09-01	1152	856	60	1800	586	7.0	22.0	260	--
AY-68-28-909	83-07-13	1135	867	20	2430	554	7.2	22.0	250	--
	83-08-24	0815	867	13	2430	552	7.2	22.0	250	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)
AY-68-28-913	83-03-09	1017	784	17	1800	567	7.1	22.5	250	--
AY-68-28-917	83-04-05	0950	392	40	10	585	7.1	22.0	270	--
AY-68-28-918	83-04-05	1115	400	30	15	1010	6.7	21.0	430	<1
	83-06-29	0905	400	5	10	993	6.8	22.0	--	--
	83-06-29	0910	400	10	10	998	6.8	22.0	410	--
	83-06-29	0930	400	30	10	998	6.8	22.5	410	--
	83-06-29	1000	400	60	10	975	6.8	22.5	410	--
	83-11-03	0935	400	35	10	944	6.8	22.0	400	--
	84-06-14	1437	400	160	15	970	6.6	22.0	400	--
	84-08-16	1500	400	120	--	--	--	--	--	--
AY-68-28-919	83-02-02	1006	550	5	3300	630	--	21.5	--	--
	83-02-02	1011	550	10	3300	635	--	22.0	--	--
	83-02-02	1034	550	30	3300	629	--	22.0	--	--
	83-06-29	1445	550	30	3300	603	7.0	22.5	270	--
	84-08-25	1110	550	33	4200	670	7.1	22.5	270	--
AY-68-28-920	83-10-18	1130	360	--	--	845	6.8	25.0	380	--
	83-11-04	1000	360	--	--	942	6.7	22.5	420	--
	84-06-13	1520	360	--	--	930	6.6	24.0	440	--

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
AY-68-28-903	83-02-03	--	--	--	--	--	--	--	--	--
	83-02-03	--	--	330	9	110	13	22	1.6	23
	83-02-16	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-06-24	--	--	330	9	110	13	21	1.7	21
	83-11-03	--	--	330	13	110	14	20	1.6	22
	84-06-14	--	--	370	0	130	11	32	2.0	21
	84-08-16	--	--	350	--	120	13	24	1.7	21
	84-08-25	--	--	350	24	120	13	23	1.7	24
AY-68-28-904	83-02-07	--	--	300	--	93	16	9.0	1.1	19
	83-02-15	--	--	--	--	--	--	--	--	--
	83-08-30	--	--	--	--	--	--	--	--	--
AY-68-28-905	83-02-09	--	--	--	--	--	--	--	--	--
	83-02-15	--	--	290	12	92	15	10	1.2	27
	83-09-01	--	--	--	--	--	--	--	--	--
AY-68-28-909	83-07-13	--	--	270	19	83	15	9.4	1.2	23
	83-08-24	--	--	--	--	--	--	--	--	--
AY-68-28-913	83-03-09	--	--	280	31	86	16	9.1	1.3	27
AY-68-28-917	83-04-05	--	--	280	11	91	13	13	1.3	14
AY-68-28-918	83-04-05	<1	<1	420	0	160	5.0	51	2.1	44
	83-06-29	--	--	--	--	--	--	--	--	--
	83-06-29	--	--	--	--	--	--	--	--	--
	83-06-29	--	--	420	10	160	4.8	46	2.1	51
	83-06-29	--	--	--	--	--	--	--	--	--
	83-11-03	--	--	420	22	160	5.3	39	2.0	45
	84-06-14	--	--	420	21	160	5.0	44	1.8	39
	84-08-16	--	--	--	--	--	--	--	--	--
AY-68-28-919	83-02-02	--	--	--	--	--	--	--	--	--
	83-02-02	--	--	--	--	--	--	--	--	--
	83-02-02	--	--	300	--	100	13	11	1.4	25
	83-06-29	--	--	290	20	93	14	9.8	1.3	17
	84-08-25	--	--	340	67	110	15	9.5	1.3	22
AY-68-28-920	83-10-18	--	--	--	--	--	--	--	--	--
	83-11-04	--	--	430	8	160	6.6	39	2.5	28
	84-06-13	--	--	450	11	170	6.1	38	2.1	28

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	IODIDE, DISSOLVED (MG/L AS I)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
AY-68-28-903	83-02-03	--	--	--	--	--	--	--	--	--
	83-02-03	24	.20	15	.130	400	2.5	--	.100	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--	--	--	--
	83-06-24	24	.20	15	.120	400	2.2	--	.070	--
	83-11-03	23	.20	15	--	400	2.5	--	.050	--
	84-06-14	34	.20	17	--	470	2.3	--	.120	--
	84-08-16	23	.20	15	--	--	--	.020	--	<.010
	84-08-25	25	.20	15	--	420	--	--	.050	--
AY-68-28-904	83-02-07	15	.20	12	.002	--	2.5	--	.070	--
	83-02-15	--	--	--	--	--	--	--	--	--
	83-08-30	--	--	--	--	--	--	--	--	--
AY-68-28-905	83-02-09	--	--	--	--	--	--	--	--	--
	83-02-15	15	.20	12	.002	340	2.4	--	<.060	--
	83-09-01	--	--	--	--	--	--	--	--	--
AY-68-28-909	83-07-13	15	.20	12	.002	310	2.8	--	.030	--
	83-08-24	--	--	--	--	--	--	--	--	--
AY-68-28-913	83-03-09	13	.20	12	--	310	2.4	--	.090	--
AY-68-28-917	83-04-05	15	.20	14	--	320	1.7	--	.080	--
AY-68-28-918	83-04-05	48	.30	25	--	590	4.7	--	.250	--
	83-06-29	--	--	--	--	--	--	--	--	--
	83-06-29	--	--	--	--	--	--	--	--	--
	83-06-29	44	.30	24	.480	580	5.3	--	.140	--
	83-06-29	--	--	--	--	--	--	--	--	--
	83-11-03	39	.30	23	--	550	4.5	--	.060	--
	84-06-14	46	.30	23	--	560	4.4	--	.040	--
	84-08-16	41	--	--	--	--	--	--	--	--
AY-68-28-919	83-02-02	--	--	--	.003	--	--	--	--	--
	83-02-02	--	--	--	--	--	--	--	--	--
	83-02-02	18	.20	14	--	--	2.6	--	.060	--
	83-06-29	15	.20	13	.001	330	3.3	--	<.060	--
	84-08-25	41	.20	12	--	370	1.7	--	.030	--
AY-68-28-920	83-10-18	--	--	--	--	--	--	--	--	--
	83-11-04	33	.10	23	--	550	3.2	--	.260	--
	84-06-13	34	.20	21	--	560	2.6	--	.060	--

LOCAL IDENTIFIER	DATE OF SAMPLE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
AY-68-28-903	83-02-03	--	--	--	--	--	--
	83-02-03	<.020	.70	1.8	--	.010	.80
	83-02-16	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--
	83-02-16	--	--	--	--	--	--
	83-06-24	<.020	.60	1.6	--	.010	1.5
	83-11-03	<.020	.70	1.8	--	<.010	.50
	84-06-14	<.010	.60	1.7	--	<.010	.90
	84-08-16	--	--	--	1.7	--	.60
	84-08-25	<.010	<.20	1.7	--	.010	.80
AY-68-28-904	83-02-07	<.020	.70	1.8	--	.010	.60
	83-02-15	--	--	--	--	--	--
	83-08-30	--	--	--	--	--	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
AY-68-28-905	83-02-09	--	--	--	--	--	--
	83-02-15	<.020	.60	1.8	--	.030	.60
	83-09-01	--	--	--	--	--	--
AY-68-28-909	83-07-13	<.020	.90	1.9	--	.010	.30
	83-08-24	--	--	--	--	--	--
AY-68-28-913	83-03-09	<.020	.70	1.7	--	.050	.50
AY-68-28-917	83-04-05	<.020	.40	1.3	--	.010	.30
AY-68-28-918	83-04-05	<.020	1.1	3.6	--	.010	.90
	83-06-29	--	--	--	--	--	--
	83-06-29	--	--	--	--	--	--
	83-06-29	<.020	1.6	3.7	--	.010	.80
	83-06-29	--	--	--	--	--	--
	83-11-03	<.020	1.2	3.3	--	<.010	.70
	84-06-14	<.010	.60	3.8	--	.020	1.1
	84-08-16	--	--	--	--	--	--
AY-68-28-919	83-02-02	--	--	--	--	--	--
	83-02-02	--	--	--	--	--	--
	83-02-02	<.020	.80	1.8	--	.020	.60
	83-06-29	<.020	1.6	1.7	--	.010	.30
	84-08-25	<.010	.20	1.5	--	.020	1.1
AY-68-28-920	83-10-18	--	--	--	--	--	--
	83-11-04	<.010	1.0	2.2	--	.010	--
	84-06-13	<.010	.70	1.9	--	.010	1.1

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)
AY-68-29-109	83-08-10	0930	460	10	400	567	6.9	23.0	280	--
	84-08-13	1340	460	1440	400	570	6.5	23.5	270	--
	84-08-15	1100	460	45	400	--	--	--	--	--
AY-68-29-208	83-03-28	1100	266	30	10	497	7.1	23.5	250	<1
	84-08-15	1230	266	50	5.0	510	6.8	24.0	260	--
AY-68-29-209	83-03-28	1300	315	30	10	506	7.1	23.0	240	2
	84-08-15	1340	315	45	5.0	520	6.8	23.5	260	--
AY-68-29-210	84-08-20	1125	329	35	5.0	620	7.3	23.0	260	--
AY-68-29-303	83-08-10	0745	527	25	1000	479	7.2	22.5	220	<1
	84-08-13	1450	527	410	1000	470	6.9	22.5	200	--
AY-68-29-401	83-08-10	1000	517	20	600	538	7.0	23.5	270	--
	84-08-10	1340	517	1440	600	540	7.2	23.5	270	--
	84-08-15	1500	517	90	600	550	6.9	25.0	--	--
AY-68-29-405	83-06-20	1015	395	30	100	619	7.0	24.5	300	<1
AY-68-29-412	83-03-16	1100	364	45	15	782	7.0	22.0	320	--
AY-68-29-510	83-06-22	1030	500	30	500	581	7.0	22.5	270	<1
AY-68-29-609	84-07-30	1230	823	--	2000	590	--	23.0	--	--
AY-68-29-702	83-07-21	1000	872	20	3000	576	7.1	22.0	250	--
AY-68-29-804	84-08-01	1330	761	--	1000	570	7.2	23.5	--	--
AY-68-29-810	84-08-01	1100	500	60	20	600	--	23.0	--	--
AY-68-29-915	84-07-30	1430	824	--	6000	520	--	24.5	--	--
AY-68-30-511	84-08-03	1430	544	--	1070	490	--	27.0	--	--
AY-68-30-802	84-07-26	1105	750	50	1000	515	7.2	27.5	200	--
AY-68-35-102	83-07-13	0850	796	20	1880	538	7.3	23.0	13	--
	84-08-24	1145	796	15	1880	540	7.3	23.0	220	--
AY-68-35-913	84-08-14	1130	1040	90	8400	482	--	25.0	--	--
AY-68-36-102	83-07-13	1007	786	20	9000	554	7.2	22.0	15	--
AY-68-36-802	84-08-07	0952	1470	--	--	--	--	--	--	--
AY-68-37-101	83-07-19	1045	1000	45	7700	524	7.2	23.0	220	--
	83-08-24	1030	1000	15	7700	523	7.2	23.0	230	--
AY-68-37-404	84-08-02	1100	1320	1440	10000	500	7.2	25.0	--	--
AY-68-37-505	84-07-20	1253	840	170	500	500	7.3	--	200	--
AY-68-37-506	84-05-15	1055	1400	20	3000	487	6.9	28.5	180	--
	84-08-01	1430	1400	--	5000	500	--	27.0	--	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
AY-68-29-109	83-08-10	--	--	--	--	--	--	--	--	--
	84-08-13	--	--	290	20	88	17	6.6	.80	10
	84-08-15	--	--	300	--	90	17	6.8	1.0	8.9
AY-68-29-208	83-03-28	<1	<1	260	8	99	2.6	4.5	.80	2.3
	84-08-15	--	--	260	5	97	5.4	4.7	.50	4.0
AY-68-29-209	83-03-28	3	4	250	13	91	6.1	4.6	.60	6.9
	84-08-15	--	--	260	4	100	3.4	4.6	.70	2.1
AY-68-29-210	84-08-20	--	--	310	54	110	9.3	5.0	1.0	60
AY-68-29-303	83-08-10	<1	<1	--	--	--	--	--	--	--
	84-08-13	--	--	230	34	79	8.8	4.9	.80	18
AY-68-29-401	83-08-10	--	--	--	--	--	--	--	--	--
	84-08-10	--	--	280	8	78	20	6.1	.80	9.1
	84-08-15	--	--	280	--	85	16	6.5	.80	8.0
AY-68-29-405	83-06-20	<1	K6	320	16	110	10	11	1.6	17
AY-68-29-412	83-03-16	--	--	340	23	130	4.4	19	2.3	19
AY-68-29-510	83-06-22	<1	<1	280	11	91	13	8.4	1.4	17
AY-68-29-609	84-07-30	--	--	290	--	91	14	8.9	1.4	19
AY-68-29-702	83-07-21	--	--	280	28	88	14	8.6	1.3	25
AY-68-29-804	84-08-01	--	--	270	--	80	17	9.0	1.3	24
AY-68-29-810	84-08-01	--	--	280	--	86	15	12	2.0	29
AY-68-29-915	84-07-30	--	--	240	--	70	16	9.5	1.3	23
AY-68-30-511	84-08-03	--	--	230	--	64	17	11	1.3	25
AY-68-30-802	84-07-26	--	--	--	--	--	--	--	--	31
AY-68-35-102	83-07-13	--	--	260	43	74	19	7.9	1.2	46
	83-08-24	--	--	--	--	--	--	--	--	--
AY-68-35-913	84-08-14	--	--	230	--	68	15	8.6	1.2	17
AY-68-36-102	83-07-13	--	--	270	250	81	16	9.6	1.3	21
AY-68-36-802	84-08-07	--	--	--	--	--	--	--	--	--
AY-68-37-101	83-07-19	--	--	260	38	75	17	9.3	1.3	30
	83-08-24	--	--	--	--	--	--	--	--	--
AY-68-37-404	84-08-02	--	--	230	--	66	16	9.0	1.2	16
AY-68-37-505	84-07-20	--	--	230	33	65	17	11	1.5	28
AY-68-37-506	84-05-15	--	--	--	--	--	--	--	--	--
	84-08-01	--	--	230	--	65	16	9.7	1.2	18

LOCAL IDENTIFIER	DATE OF SAMPLE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	IODIDE, DISSOLVED (MG/L AS I)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
AY-68-29-109	83-08-10	--	--	--	--	--	--	--	--	--
	84-08-13	12	.20	12	--	310	1.2	--	<.010	--
	84-08-15	13	.20	12	--	--	--	<.010	--	<.010
AY-68-29-208	83-03-28	8.2	<.10	14	--	280	1.5	--	.060	--
	84-08-15	8.4	<.10	13	--	290	1.4	--	<.010	--
AY-68-29-209	83-03-28	8.6	<.10	13	--	280	1.3	--	<.060	--
	84-08-15	8.2	<.10	14	--	290	2.5	--	<.010	--
AY-68-29-210	84-08-20	9.2	<.10	11	--	360	--	--	.010	--
AY-68-29-303	83-08-10	--	--	--	--	--	--	--	--	--
	84-08-13	9.2	.10	9.8	--	250	2.2	--	<.010	--
AY-68-29-401	83-08-10	--	--	--	--	--	--	--	--	--
	84-08-10	11	.20	12	--	300	--	--	<.010	--
	84-08-15	13	.20	12	--	--	--	<.010	--	<.010
AY-68-29-405	83-06-20	14	.20	14	<.001	360	3.3	--	<.060	--
AY-68-29-412	83-03-16	30	.20	20	--	420	7.7	--	<.060	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	IODIDE, DISSOLVED (MG/L AS I)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
AY-68-29-510	83-06-22	12	.20	12	.002	320	1.5	--	<.060	--
AY-68-29-609	84-07-30	13	.20	12	--	--	--	.060	--	.010
AY-68-29-702	83-07-21	14	.20	11	<.001	310	2.1	--	.040	--
AY-68-29-804	84-08-01	13	.20	12	--	--	--	.050	--	<.010
AY-68-29-810	84-08-01	15	.30	14	--	--	--	.070	--	<.010
AY-68-29-915	84-07-30	15	.20	12	--	--	--	.050	--	<.010
AY-68-30-511	84-08-03	18	.30	12	--	--	--	<.010	--	<.010
AY-68-30-802	84-07-26	24	--	--	--	--	--	--	--	--
AY-68-35-102	83-07-13	14	.20	12	.001	310	2.1	--	.050	--
	83-08-24	--	--	--	--	--	--	--	--	--
AY-68-35-913	84-08-14	19	.20	12	--	--	--	<.010	--	<.010
AY-68-36-102	83-07-13	16	.20	12	.001	301	3.1	--	.030	--
AY-68-36-802	84-08-07	16	--	--	--	--	--	<.010	--	<.010
AY-68-37-101	83-07-19	15	.30	12	.001	290	2.4	--	.040	--
	83-08-24	--	--	--	--	--	--	--	--	--
AY-68-37-404	84-08-02	17	.20	12	--	--	--	<.010	--	<.010
AY-68-37-505	84-07-20	19	.40	12	--	270	--	<.010	--	<.010
AY-68-37-506	84-05-15	--	--	--	--	--	--	--	--	--
	84-08-01	18	.20	12	--	--	--	.060	--	<.010

LOCAL IDENTIFIER	DATE OF SAMPLE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
AY-68-29-109	83-08-10	--	--	--	--	--	--
	84-08-13	<.010	.20	1.0	--	.010	.50
	84-08-15	--	--	--	1.1	--	.20
AY-68-29-208	83-03-28	<.020	.30	1.2	--	.020	.20
	84-08-15	<.010	.30	1.1	--	.140	.50
AY-68-29-209	83-03-28	<.020	.40	.90	--	.010	.20
	84-08-15	<.010	.90	1.6	--	<.010	.30
AY-68-29-210	84-08-20	<.010	<.20	1.3	--	<.010	.40
AY-68-29-303	83-08-10	--	--	--	--	--	--
	84-08-13	<.010	.30	1.9	--	.010	.40
AY-68-29-401	83-08-10	--	--	--	--	--	--
	84-08-10	<.010	<.20	.90	--	.010	.40
	84-08-15	--	--	--	1.6	--	.30
AY-68-29-405	83-06-20	<.020	1.5	1.8	--	.010	.80
AY-68-29-412	83-03-16	<.020	.50	7.2	--	.020	.30
AY-68-29-510	83-06-22	<.020	.30	1.2	--	.010	1.0
AY-68-29-609	84-07-30	--	--	--	1.1	--	.50
AY-68-29-702	83-07-21	<.020	.50	1.6	--	.030	.90
AY-68-29-804	84-08-01	--	--	--	1.3	--	.50
AY-68-29-810	84-08-01	--	--	--	.53	--	1.0
AY-68-29-915	84-07-30	--	--	--	1.0	--	.70
AY-68-30-511	84-08-03	--	--	--	1.4	--	.20
AY-68-30-802	84-07-26	--	--	--	--	--	--
AY-68-35-102	83-07-13	<.020	.80	1.3	--	.010	.50
	83-08-24	--	--	--	--	--	--
AY-68-35-913	84-08-14	--	--	--	1.0	--	.20
AY-68-36-102	83-07-13	<.020	1.0	2.1	--	.010	.80
AY-68-36-802	84-08-07	--	--	--	.81	--	.70
AY-68-37-101	83-07-19	<.020	.70	1.7	--	.070	.40
	83-08-24	--	--	--	--	--	--
AY-68-37-404	84-08-02	--	--	--	1.0	--	.50
AY-68-37-505	84-07-20	--	--	--	1.4	--	--
AY-68-37-506	84-05-15	--	--	--	--	--	--
	84-08-01	--	--	--	1.2	--	.50

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)
AY-68-37-507	84-05-15	1115	1100	5	6940	479	7.3	27.0	--	--
	84-06-25	1435	1100	10	6940	492	--	27.5	--	--
AY-68-37-508	84-05-15	1105	1310	5	7640	456	7.3	26.5	--	--
	84-06-25	1417	1310	17	5000	485	--	27.5	200	--
AY-68-37-518	84-06-25	1447	977	7	5200	493	--	28.0	--	--
AY-68-37-603	84-07-13	1530	797	25	100	720	7.0	28.0	190	--
AY-68-37-701	84-06-25	1215	1580	1440	3000	510	7.3	29.5	200	--
AY-68-37-705	83-08-31	1030	1790	1440	3000	474	6.9	27.0	200	--
	84-05-15	0905	1790	20	6500	483	6.9	26.5	200	--
	84-06-25	1110	1790	40	6500	486	7.3	27.5	200	--
AY-68-37-708	84-06-25	1233	1400	1440	3600	513	--	27.5	--	--
AY-68-37-709	84-05-15	0940	1360	15	5000	505	7.2	27.0	200	--
	84-06-25	1247	1360	7	5000	514	--	28.0	--	--
AY-68-37-710	84-05-15	0950	1510	5	7640	490	7.2	26.5	200	--
	84-06-25	1259	1510	7	7640	499	--	27.5	--	--
AY-68-38-107	84-05-15	1205	726	15	2000	505	7.5	27.5	200	--
	84-06-25	1545	726	25	2000	512	7.4	29.0	200	--
AY-68-43-601	84-07-19	1140	1910	25	20	480	7.3	26.5	200	--
AY-68-43-702	84-05-02	1423	2050	1440	25	2110	--	37.0	--	--
AY-68-43-703	84-07-12	0925	2030	1440	750	1280	7.1	35.5	200	--
	84-07-19	0955	2030	720	750	1250	7.1	35.5	200	--
AY-68-43-802	84-07-13	1115	1980	1440	600	500	7.2	273	200	--
AY-68-43-807	84-05-02	1600	2290	420	700	1040	--	36.0	--	--
	84-07-07	1207	2290	70	700	760	7.2	36.0	190	--
AY-68-43-810	84-05-02	1300	1860	1440	65	1020	--	35.0	--	--
AY-68-43-811	84-07-12	1440	2290	1440	1600	615	7.3	28.0	210	--
AY-68-43-816	84-07-13	1030	1990	1440	927	1130	7.0	25.5	190	--
AY-68-43-818	84-07-04	1230	1950	1440	400	1300	7.0	36.0	190	--
AY-68-44-210	84-05-02	1145	1670	240	150	1530	7.0	31.5	210	--
AY-68-44-401	84-07-07	1455	1530	1440	800	500	7.2	27.0	200	--
	84-07-19	1255	1530	1440	1000	495	7.2	27.0	200	--
AY-68-45-101	84-07-10	1345	1870	1440	15	5700	6.7	39.5	230	--
AY-68-50-304	84-08-09	1100	2160	--	--	--	--	--	--	--

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
AY-68-37-507	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	--	--	--	--	--	--	--	--	--
AY-68-37-508	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	--	--	230	33	65	17	10	1.1	17
AY-68-37-518	84-06-25	--	--	--	--	--	--	--	--	--
AY-68-37-603	84-07-13	--	--	290	97	77	23	34	3.9	100
AY-68-37-701	84-06-25	--	--	240	42	67	18	11	1.2	24
AY-68-37-705	83-08-31	--	--	230	33	65	17	9.6	1.1	23
	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	--	--	230	33	65	17	9.5	1.1	21
AY-68-37-708	84-06-25	--	--	--	--	--	--	--	--	--
AY-68-37-709	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	--	--	--	--	--	--	--	--	--
AY-68-37-710	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	--	--	--	--	--	--	--	--	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
AY-68-38-107	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	--	--	240	42	67	18	13	1.4	28
AY-68-43-601	84-07-19	--	--	240	38	67	17	9.9	.80	23
AY-68-43-702	84-05-02	--	--	--	--	--	--	--	--	--
AY-68-43-703	84-07-12	--	--	550	350	150	43	71	5.2	310
AY-68-43-703	84-07-19	--	--	--	--	--	--	--	--	--
AY-68-43-802	84-07-13	--	--	230	33	65	17	10	1.4	30
AY-68-43-807	84-05-02	--	--	--	--	--	--	--	--	--
	84-07-07	--	--	310	120	83	25	27	2.8	120
AY-68-43-810	84-05-02	--	--	--	--	--	--	--	--	--
AY-68-43-811	84-07-12	--	--	--	--	--	--	--	--	86
AY-68-43-816	84-07-13	--	--	480	290	130	37	58	4.2	260
AY-68-43-818	84-07-04	--	--	--	--	--	--	--	--	300
AY-68-44-210	84-05-02	--	--	--	--	--	--	--	--	--
AY-68-44-401	84-07-07	--	--	220	25	62	17	10	1.7	26
	84-07-19	--	--	--	--	--	--	--	--	--
AY-68-45-101	84-07-10	--	--	--	--	--	--	--	--	2000
AY-68-50-304	84-08-09	--	--	--	--	--	--	--	--	--

LOCAL IDENTIFIER	DATE OF SAMPLE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	IODIDE, DISSOLVED (MG/L AS I)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
AY-68-37-507	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	--	--	--	--	--	--	--	--	--
AY-68-37-508	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	19	.30	12	--	260	--	.010	--	<.010
AY-68-37-518	84-06-25	--	--	--	--	--	--	--	--	--
AY-68-37-603	84-07-13	47	.80	13	--	410	--	.070	--	<.010
AY-68-37-701	84-06-25	21	.30	12	--	270	--	.010	--	<.010
AY-68-37-705	83-08-31	20	.30	13	--	270	1.7	--	.050	--
	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	18	.30	12	--	260	--	.010	--	<.010
AY-68-37-708	84-06-25	--	--	--	--	--	--	--	--	--
AY-68-37-709	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	--	--	--	--	--	--	--	--	--
AY-68-37-710	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	--	--	--	--	--	--	--	--	--
AY-68-38-107	84-05-15	--	--	--	--	--	--	--	--	--
	84-06-25	22	.40	12	--	280	--	.010	--	<.010
AY-68-43-601	84-07-19	16	.30	12	--	270	--	<.010	--	<.010
AY-68-43-702	84-05-02	--	--	--	--	--	--	--	--	--
AY-68-43-703	84-07-12	150	1.2	15	--	870	--	.070	--	<.010
	84-07-19	--	--	--	--	--	--	--	--	--
AY-68-43-802	84-07-13	20	.40	12	--	280	--	.040	--	<.010
AY-68-43-807	84-05-02	--	--	--	--	--	--	--	--	--
	84-07-07	48	.80	13	--	430	--	.090	--	<.010
AY-68-43-810	84-05-02	--	--	--	--	--	--	--	--	--
AY-68-43-811	84-07-12	17	--	--	--	--	--	--	--	--
AY-68-43-816	84-07-13	120	1.2	15	--	740	--	.050	--	<.010
AY-68-43-818	84-07-04	150	--	--	--	--	--	--	--	--
AY-68-44-210	84-05-02	--	--	--	--	--	--	--	--	--
AY-68-44-401	84-07-07	20	.30	12	--	270	--	<.010	--	<.010
	84-07-19	--	--	--	--	--	--	--	--	--
AY-68-45-101	84-07-10	910	--	--	--	--	--	--	--	--
AY-68-50-304	84-08-09	59	--	--	--	--	--	.090	--	<.010

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
AY-68-37-507	84-05-15	--	--	--	--	--	--
	84-06-25	--	--	--	--	--	--
AY-68-37-508	84-05-15	--	--	--	--	--	--
	84-06-25	--	--	--	1.5	--	--
AY-68-37-518	84-06-25	--	--	--	--	--	--
AY-68-37-603	84-07-13	--	--	--	<.10	--	--
AY-68-37-701	84-06-25	--	--	--	1.3	--	--
AY-68-37-705	83-08-31	<.020	.30	1.4	--	<.010	.20
	84-05-15	--	--	--	--	--	--
	84-06-25	--	--	--	1.4	--	--
AY-68-37-708	84-06-25	--	--	--	--	--	--
AY-68-37-709	84-05-15	--	--	--	--	--	--
	84-06-25	--	--	--	--	--	--
AY-68-37-710	84-05-15	--	--	--	--	--	--
	84-06-25	--	--	--	--	--	--
AY-68-38-107	84-05-15	--	--	--	--	--	--
	84-06-25	--	--	--	1.1	--	--
AY-68-43-601	84-07-19	--	--	--	1.6	--	--
AY-68-43-702	84-05-02	--	--	--	--	--	--
AY-68-43-703	84-07-12	--	--	--	<.10	--	--
	84-07-19	--	--	--	--	--	--
AY-68-43-802	84-07-13	--	--	--	1.1	--	--
AY-68-43-807	84-05-02	--	--	--	--	--	--
	84-07-07	--	--	--	<.10	--	--
AY-68-43-810	84-05-02	--	--	--	--	--	--
AY-68-43-811	84-07-12	--	--	--	--	--	--
AY-68-43-816	84-07-13	--	--	--	<.10	--	--
AY-68-43-818	84-07-04	--	--	--	--	--	--
AY-68-44-210	84-05-02	--	--	--	--	--	--
AY-68-44-401	84-07-07	--	--	--	1.3	--	--
	84-07-19	--	--	--	--	--	--
AY-68-45-101	84-07-10	--	--	--	--	--	--
AY-68-50-304	84-08-09	--	--	--	.10	--	.20

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN)	FLOW RATE, INSTAN-TANEOUS (GPM)	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)
AY-68-21-804	83-03-29	1000	279	30	10	<1	26	<1	<10	2
	84-08-15	1105	279	55	5.0	<1	35	<1	<10	5
AY-68-27-303	83-08-02	0915	427	60	15	<1	31	<1	<10	1
	84-08-16	1425	427	30	10	<1	40	<1	<10	4
AY-68-27-503	83-08-01	1205	435	20	275	<1	28	<1	<10	1
AY-68-27-504	83-08-01	1125	508	20	525	<1	32	<1	<10	<1
AY-68-28-202	83-08-12	0840	457	30	95	<1	27	<1	<10	4
	84-06-21	1220	457	260	95	<1	27	<1	<10	5
AY-68-28-203	83-08-12	0920	435	20	230	1	50	<1	<10	3
AY-68-28-501	83-08-12	0805	468	20	110	1	35	<1	<10	8
AY-68-28-502	83-08-12	0730	506	20	130	<1	34	<1	<10	4
	84-06-21	1420	506	55	130	<1	30	<1	<10	3
AY-68-28-508	83-08-03	1025	396	30	150	<1	25	<1	<10	1
	84-08-13	1205	396	245	150	<1	25	<1	<10	2
AY-68-28-607	83-06-21	0930	403	30	70	1	48	<1	<10	6
AY-68-28-902	83-02-16	0935	811	30	2800	1	44	<1	<10	3
	83-11-04	1445	811	40	2800	2	43	<1	<10	5
	84-06-14	1335	811	40	2800	<1	43	<1	<10	3
	84-08-16	1115	811	120	935	<1	50	<1	<10	<10

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	IRON, DISSOLVED (UG/L AS FE)	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)
AY-68-21-804	83-03-29	<3	2	2	<.1	1	<1	1200
	84-08-15	<3	4	2	<.1	<1	<1	1500
AY-68-27-303	83-08-02	<3	1	<1	<.1	<1	<1	290
	84-08-16	<3	3	<1	<.1	<1	<1	250
AY-68-27-503	83-08-01	<3	3	<1	<.1	<1	<1	11
AY-68-27-504	83-08-01	8	<1	<1	<.1	1	<1	6
AY-68-28-202	83-08-12	<3	1	<1	<.1	<1	<1	5
	84-06-21	8	<1	3	<.1	<1	<1	12
AY-68-28-203	83-08-12	77	1	28	<.1	<1	<1	14
AY-68-28-501	83-08-12	<3	1	<1	<.1	<1	<1	14
AY-68-28-502	83-08-12	3	1	<1	<.1	<1	<1	33
	84-06-21	<3	<1	1	<.1	<1	<1	19
AY-68-28-508	83-08-03	<3	1	<1	<.1	<1	<1	7
	84-08-13	<3	1	1	<.1	<1	<1	4
AY-68-28-607	83-06-21	3	9	<1	<.1	<1	<1	22
AY-68-28-902	83-02-16	5	<1	<1	.1	1	<1	8
	83-11-04	3	3	<1	<.1	1	<1	13
	84-06-14	4	<1	2	<.1	<1	<1	30
	84-08-16	<3	<10	<1	--	--	<1	14

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	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)
AY-68-28-903	83-02-03	0905	762	5	3500	1	43	<1	<10	3
	83-02-03	0930	762	30	3500	1	47	<1	<10	3
	83-02-03	1100	762	120	3500	<1	50	<1	<10	1
	83-06-24	1350	556	60	3500	1	49	<1	<10	4
	83-11-03	1430	762	60	3400	<1	49	<1	<10	5
	84-06-14	1105	762	45	3500	<1	63	<1	<10	3
	84-08-16	1330	762	--	1500	<1	51	<1	<10	<10
	84-08-25	1252	762	70	3400	<1	52	<1	<10	5
AY-68-28-904	83-02-07	1000	640	1440	1000	1	33	<1	<10	2
AY-68-28-905	83-02-15	1036	856	10	1800	1	34	<1	<10	4
AY-68-28-909	83-07-13	1135	867	20	2430	<1	33	<1	<10	<1
AY-68-28-913	83-03-09	1017	784	17	1800	<1	32	<1	<10	5
AY-68-28-917	83-04-05	0950	392	40	10	1	38	<1	<10	4
AY-68-28-918	83-04-05	1115	400	30	15	1	100	<1	<10	7
	83-06-29	0930	400	30	10	1	97	<1	<10	5
	83-11-03	0935	400	35	10	2	94	<1	<10	5
	84-06-14	1437	400	160	15	<1	88	<1	<10	16
AY-68-28-919	83-02-02	1034	550	30	3300	1	42	<1	<10	4
	84-08-25	1110	550	33	4200	<1	41	<1	<10	8
AY-68-28-920	83-11-04	1000	360	--	--	<1	82	<1	<10	70
	84-06-13	1520	360	--	--	<1	79	<1	<10	4

LOCAL IDENTIFIER	DATE OF SAMPLE	IRON, DISSOLVED (UG/L AS FE)	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)
AY-68-28-903	83-02-03	<3	<1	<1	<.1	<1	<1	31
	83-02-03	3	<1	<1	.1	1	<1	21
	83-02-03	<3	<1	<1	.1	1	<1	31
	83-06-24	<3	3	<1	.1	<1	<1	17
	83-11-03	4	1	<1	<.1	<1	<1	15
	84-06-14	3	<1	5	.3	<1	<1	51
	84-08-16	<3	<10	1	--	--	<1	27
	84-08-25	5	2	<1	<.1	<1	<1	23
AY-68-28-904	83-02-07	<3	1	<1	<.1	1	<1	19
AY-68-28-905	83-02-15	7	3	1	.3	1	<1	7

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	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)
AY-68-28-909	83-07-13	<3	4	<1	<.1	1	<1	5
AY-68-28-913	83-03-09	3	5	<1	<.1	1	<1	11
AY-68-28-917	83-04-05	6	3	<1	<.1	1	<1	23
AY-68-28-918	83-04-05	15	5	72	.3	2	<1	160
	83-06-29	7	6	48	.2	2	<1	230
	83-11-03	8	7	31	.1	1	<1	270
	84-06-14	5	4	4	.4	<1	<1	160
AY-68-28-919	83-02-02	7	3	<1	<.1	1	<1	6
	84-08-25	<3	<1	<1	<.1	<1	<1	<3
AY-68-28-920	83-11-04	16	1	63	1.5	1	<1	900
	84-06-13	4	2	8	1.7	<1	<1	110

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN)	FLOW RATE, INSTAN-TANEOUS (GPM)	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)
AY-68-29-109	84-08-13	1340	460	1440	400	<1	44	<1	<10	3
	84-08-15	1100	460	45	600	<1	46	<1	<10	<10
AY-68-29-208	83-03-28	1100	266	30	10	<1	34	<1	<10	5
	84-08-15	1230	266	50	5.0	<1	40	<1	<10	2
AY-68-29-209	83-03-28	1300	315	30	10	<1	31	<1	<10	2
	84-08-15	1340	315	45	5.0	<1	45	<1	<10	4
AY-68-29-210	84-08-20	1125	329	35	5.0	<1	44	<1	<10	4
AY-68-29-303	84-08-13	1450	527	410	1000	<1	33	1	<10	1
AY-68-29-401	84-08-10	1340	517	1440	600	<1	31	<1	<10	1
	84-08-15	1500	517	90	600	<1	44	<1	<10	<10
AY-68-29-405	83-06-20	1015	395	30	100	<1	46	<1	<10	4
AY-68-29-412	83-03-16	1100	364	45	15	<1	71	<1	<10	3
AY-68-29-510	83-06-22	1030	500	30	500	<1	35	<1	<10	1
AY-68-29-609	84-07-30	1230	823	--	2000	<1	43	<1	<10	<10
AY-68-29-702	83-07-21	1000	872	20	3000	<1	32	<1	<10	3
AY-68-29-804	84-08-01	1330	761	--	1000	<1	44	2	<10	<10
AY-68-29-810	84-08-01	1100	500	60	20	<1	46	<1	<10	<10
AY-68-29-915	84-07-30	1430	824	--	6000	<1	55	<1	<10	<10
AY-68-30-511	84-08-03	1430	544	--	1070	<1	170	<1	<10	<10
AY-68-35-102	83-07-13	0850	796	20	1880	<1	31	<1	<10	<1
AY-68-35-913	84-08-14	1130	1040	--	--	<1	55	<1	<10	<10
AY-68-36-102	83-07-13	1007	786	20	9000	<1	34	<1	<10	<1
AY-68-37-404	84-08-02	1100	1320	--	10000	<1	63	<1	<10	<10
AY-68-37-506	84-08-01	1430	1400	--	5000	<1	110	<1	<10	<10
AY-68-37-705	83-08-31	1030	1790	1440	3000	<1	110	<1	<10	2

LOCAL IDENT-I-FIER	DATE OF SAMPLE	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)
AY-68-29-109	84-08-13	7	2	1	<.1	<1	<1	7
	84-08-15	3	<10	1	--	--	<1	19
AY-68-29-208	83-03-28	6	6	<1	<.1	<1	1	610
	84-08-15	6	<1	<1	<.1	<1	<1	650
AY-68-29-209	83-03-28	5	4	2	<.1	1	<1	510
	84-08-15	4	8	<1	<.1	<1	<1	750
AY-68-29-210	84-08-20	6	37	<1	<.1	<1	<1	1300
AY-68-29-303	84-08-13	<3	1	2	<.1	<1	<1	6
AY-68-29-401	84-08-10	<3	2	<1	<.1	<1	<1	3
	84-08-15	3	<10	2	--	--	<1	19
AY-68-29-405	83-06-20	6	12	<1	<.1	1	<1	13
AY-68-29-412	83-03-16	3	3	<1	<.1	1	<1	19
AY-68-29-510	83-06-22	3	15	<1	<.1	1	<1	190
AY-68-29-609	84-07-30	<3	<10	<1	--	--	<1	17
AY-68-29-702	83-07-21	5	<1	<1	<.1	1	<1	10

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	IRON, DISSOLVED (UG/L AS FE)	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)
AY-68-29-804	84-08-01	<3	<10	<1	--	--	1	38
AY-68-29-810	84-08-01	3	<10	2	--	--	<1	120
AY-68-29-915	84-07-30	<3	<10	<1	--	--	<1	8
AY-68-30-511	84-08-03	<3	<10	2	--	--	<1	33
AY-68-35-102	83-07-13	<3	1	1	.1	<1	<1	5
AY-68-35-913	84-08-14	<3	<10	3	--	--	<1	10
AY-68-36-102	83-07-13	<3	<1	<1	.1	1	<1	4
AY-68-37-404	84-08-02	<3	<10	<1	--	--	<1	22
AY-68-37-506	84-08-01	<3	<10	<1	--	--	<1	17
AY-68-37-705	83-08-31	<3	<1	<1	<.1	1	<1	<3

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)
AY-68-27-303	83-08-02	0915	354	60	15	<.1	<.10	<.010	<.1	<.010
	84-08-16	1425	354	30	10	<.1	<.10	<.010	<.1	<.010
AY-68-27-504	83-08-01	1125	508	20	525	<.1	<.10	<.010	<.1	<.010
AY-68-28-202	83-08-12	0840	457	30	95	<.1	<.10	<.010	<.1	<.010
	84-06-21	1220	457	260	95	<.1	<.10	<.010	<.1	<.010
AY-68-28-903	84-08-25	1252	762	70	3400	<.1	<.10	<.010	<.1	<.010
AY-68-29-109	84-08-13	1340	460	1440	400	<.1	<.10	<.010	<.1	<.010
AY-68-29-209	84-08-15	1340	315	45	5.0	<.1	<.10	<.010	<.1	<.010
AY-68-29-210	84-08-20	1125	330	35	5.0	<.1	<.10	<.010	<.1	<.010

LOCAL IDENTIFIER	DATE OF SAMPLE	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)
AY-68-27-303	83-08-02	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
	84-08-16	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
AY-68-27-504	83-08-01	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
AY-68-28-202	83-08-12	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
	84-06-21	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
AY-68-28-903	84-08-25	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
AY-68-29-109	84-08-13	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
AY-68-29-209	84-08-15	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
AY-68-29-210	84-08-20	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010

LOCAL IDENTIFIER	DATE OF SAMPLE	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)
AY-68-27-303	83-08-02	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
	84-08-16	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
AY-68-27-504	83-08-01	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
AY-68-28-202	83-08-12	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
	84-06-21	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
AY-68-28-903	84-08-25	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
AY-68-29-109	84-08-13	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
AY-68-29-209	84-08-15	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
AY-68-29-210	84-08-20	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)
AY-68-27-303	83-08-02	<.01	<.01	<.01	<.01	<.01
	84-08-16	<.01	<.01	<.01	<.01	<.01
AY-68-27-504	83-08-01	<.01	<.01	<.01	<.01	<.01
AY-68-28-202	83-08-12	<.01	<.01	<.01	<.01	<.01
	84-06-21	<.01	<.01	<.01	<.01	<.01
AY-68-28-903	84-08-25	.04	<.01	<.01	<.01	<.01
AY-68-29-109	84-08-13	<.01	<.01	<.01	<.01	<.01
AY-68-29-209	84-08-15	<.01	<.01	<.01	<.01	<.01
AY-68-29-210	84-08-20	<.01	<.01	<.01	<.01	<.01

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

COMAL COUNTY

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)
DX-68-15-901	83-08-03	0815	--	--	--	559	6.9	22.0	270	--
DX-68-16-502	83-08-08	1040	230	10	250	570	7.4	23.0	260	--
	84-07-24	1400	230	35	300	570	7.0	23.0	260	--
DX-68-16-805	84-05-18	1601	--	56	10	550	7.1	23.5	240	--
	84-07-06	1345	--	60	15	560	7.2	24.0	250	--
DX-68-16-806	84-07-06	1445	--	30	15	570	7.2	27.0	250	--
DX-68-22-901	83-08-01	0910	255	50	1480	506	7.2	22.5	250	--
	84-08-17	1344	255	20	1200	500	6.8	--	--	--
DX-68-22-902	83-07-25	0915	240	20	730	515	7.2	22.5	240	<1
DX-68-23-301	83-07-21	0725	--	--	--	538	7.1	23.5	230	3
	84-06-28	1215	--	--	150	553	7.6	23.5	230	--
DX-68-23-303	83-07-27	1010	1040	20	4700	536	7.2	24.0	230	<1
	84-07-24	1515	1040	15	4700	530	7.2	24.0	230	--
	84-08-20	1420	1040	20	1500	580	7.3	25.0	--	--
DX-68-23-305	84-08-20	1100	102	--	1000	529	--	26.5	--	--
DX-68-23-316	83-08-02	1125	350	60	10	530	7.0	23.0	260	K2
	84-08-16	1000	350	40	10	540	6.9	23.0	270	--
DX-68-23-318	84-06-25	1055	620	1440	38	3410	6.8	26.0	300	--
	84-11-19	1150	620	50	450	3840	6.9	25.5	290	--
DX-68-23-501	84-07-09	0900	210	15	500	540	7.0	23.0	250	--
DX-68-23-602	83-07-27	1105	790	20	275	540	7.2	23.0	240	--
DX-68-23-701	84-07-09	1010	300	20	10	570	7.2	23.0	240	--
DX-68-23-708	84-06-28	1515	380	--	45	2540	7.0	23.5	1280	--
DX-68-23-709	84-05-17	1123	380	30	15	554	7.4	23.0	220	--
	84-07-09	1052	380	29	15	570	7.3	24.5	220	--
DX-68-23-809	84-05-24	1121	720	32	10	670	7.4	24.5	240	--
	84-07-10	0800	720	35	5.0	660	7.2	25.0	250	--
DX-68-24-102	84-08-03	0930	211	--	4100	590	--	23.0	--	--
DX-68-31-115	84-07-09	1250	400	11	5.0	810	6.9	24.0	320	--

LOCAL IDENT-I-FIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
DX-68-15-901	83-08-03	--	--	290	20	93	14	7.4	1.3	21
DX-68-16-502	83-08-08	--	--	--	--	--	--	--	--	--
	84-07-24	--	--	300	40	92	17	8.5	1.4	23
DX-68-16-805	84-05-18	--	--	280	43	85	17	9.6	1.3	21
	84-07-06	--	--	270	21	82	16	9.1	1.3	21
DX-68-16-806	84-07-06	--	--	--	--	--	--	--	--	25
DX-68-22-901	83-08-01	--	--	250	5	82	12	12	.90	9.8
	84-08-17	--	--	250	--	80	12	5.3	.10	8.3
DX-68-22-902	83-07-25	<1	1	260	20	84	12	6.0	1.0	12
DX-68-23-301	83-07-21	<1	1	260	31	78	16	9.2	1.5	23
	84-06-28	--	--	260	34	79	16	9.5	1.4	23
DX-68-23-303	83-07-27	<1	<1	250	25	74	17	10	1.4	28
	84-07-24	--	--	260	30	76	17	10	1.5	26
	84-08-20	--	--	270	--	78	17	9.8	1.9	28
DX-68-23-305	84-08-20	--	--	260	--	75	17	9.3	1.7	24
DX-68-23-316	83-08-02	<1	<1	260	1	83	13	5.0	.90	10
	84-08-16	--	--	270	0	84	14	5.3	1.1	8.9
DX-68-23-318	84-06-25	--	--	970	670	190	120	360	2.6	620
	84-11-19	--	--	990	700	200	120	360	25	630
DX-68-23-501	84-07-09	--	--	--	--	--	--	--	--	17
DX-68-23-602	83-07-27	--	--	250	8	76	14	8.0	1.3	19
DX-68-23-701	84-07-09	--	--	--	--	--	--	--	--	34
DX-68-23-708	84-06-28	--	--	690	0	94	110	290	25	--
DX-68-23-709	84-05-17	--	--	--	--	--	--	--	--	--
	84-07-09	--	--	--	--	--	--	--	--	38
DX-68-23-809	84-05-24	--	--	260	25	50	34	37	2.9	30
	84-07-10	--	--	260	15	50	34	35	3.1	57
DX-68-24-102	84-08-03	--	--	280	--	87	15	7.5	1.1	17
DX-68-31-115	84-07-09	--	--	--	--	--	--	--	--	24

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

COMAL COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	IODIDE, DISSOLVED (MG/L AS I)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
DX-68-15-901	83-08-03	11	.20	11	.006	320	2.3	--	.040	--
DX-68-16-502	83-08-08	--	--	--	--	--	2.5	--	.030	--
	84-07-24	12	.20	12	--	320	1.9	--	.020	--
DX-68-16-805	84-05-18	15	.20	13	--	310	--	.020	--	<.010
	84-07-06	14	.20	12	--	310	--	.030	--	<.010
DX-68-16-806	84-07-06	15	--	--	--	--	--	--	--	--
DX-68-22-901	83-08-01	12	.10	180	<.001	--	2.0	--	.040	--
	84-08-17	10	.10	11	--	--	--	<.010	--	<.010
DX-68-22-902	83-07-25	10	.10	11	.002	280	2.0	--	.040	--
DX-68-23-301	83-07-21	15	.20	12	<.001	290	2.0	--	.040	--
	84-06-28	14	.20	12	--	290	2.0	--	.030	--
DX-68-23-303	83-07-27	16	.20	12	<.001	300	2.1	--	.030	--
	84-07-24	15	.30	12	--	300	1.7	--	.020	--
	84-08-20	14	.30	12	--	--	--	<.010	--	<.010
DX-68-23-305	84-08-20	14	.20	11	--	--	--	<.010	--	<.010
DX-68-23-316	83-08-02	8.6	.10	11	<.001	290	2.1	--	.050	--
	84-08-16	9.3	.10	11	--	300	--	--	.020	--
DX-68-23-318	84-06-25	630	3.2	14	--	2100	--	1.20	--	<.010
	84-11-19	650	3.0	15	--	2200	--	--	1.40	--
DX-68-23-501	84-07-09	13	--	--	--	--	--	--	--	--
DX-68-23-602	83-07-27	14	.20	12	.001	290	2.4	--	.040	--
DX-68-23-701	84-07-09	25	--	--	--	--	--	--	--	--
DX-68-23-708	84-06-28	570	5.2	11	--	--	--	.950	--	<.010
DX-68-23-709	84-05-17	--	--	--	--	--	--	--	--	--
	84-07-09	26	--	--	--	--	--	--	--	--
DX-68-23-809	84-05-24	53	2.4	13	--	370	--	.100	--	<.010
	84-07-10	50	2.5	13	--	390	--	.120	--	<.010
DX-68-24-102	84-08-03	--	.20	12	--	--	--	--	--	--
DX-68-31-115	84-07-09	32	--	--	--	--	--	--	--	--

LOCAL IDENTIFIER	DATE OF SAMPLE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
DX-68-15-901	83-08-03	<.020	1.0	1.3	--	.020	.60
DX-68-16-502	83-08-08	<.020	.80	1.7	--	.040	.20
	84-07-24	<.010	.40	1.5	--	<.010	.30
DX-68-16-805	84-05-18	--	--	--	1.6	--	--
	84-07-06	--	--	--	<.10	--	--
DX-68-16-806	84-07-06	--	--	--	--	--	--
DX-68-22-901	83-08-01	<.020	.30	1.7	--	.040	.40
	84-08-17	--	--	--	1.6	--	1.2
DX-68-22-902	83-07-25	<.020	.30	1.7	--	.020	.30
DX-68-23-301	83-07-21	<.020	.30	1.7	--	.020	.40
	84-06-28	<.010	.30	1.7	--	.010	.40
DX-68-23-303	83-07-27	<.020	.50	1.6	--	.020	.40
	84-07-24	<.010	.20	1.5	--	.010	.40
	84-08-20	--	--	--	1.7	--	.60
DX-68-23-305	84-08-20	--	--	--	1.0	--	1.2
DX-68-23-316	83-08-02	<.020	.70	1.4	--	.030	.50
	84-08-16	<.010	--	1.6	--	<.010	.50
DX-68-23-318	84-06-25	--	--	--	<.10	--	--
	84-11-19	<.010	1.2	<.10	--	.010	.50
DX-68-23-501	84-07-09	--	--	--	--	--	--
DX-68-23-602	83-07-27	<.020	.40	2.0	--	.020	.30
DX-68-23-701	84-07-09	--	--	--	--	--	--
DX-68-23-708	84-06-28	--	--	--	<.10	--	--
DX-68-23-709	84-05-17	--	--	--	--	--	--
	84-07-09	--	--	--	--	--	--
DX-68-23-809	84-05-24	--	--	--	<.10	--	--
	84-07-10	--	--	--	<.10	--	--
DX-68-24-102	84-08-03	--	--	--	--	--	--
DX-68-31-115	84-07-09	--	--	--	--	--	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

COMAL COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	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)
DX-68-15-901	83-08-03	0815	--	--	--	<1	31	<1	<10	1
DX-68-16-502	84-07-24	1400	230	35	300	<1	38	<1	<10	<1
DX-68-22-901	83-08-01	0910	255	50	1480	<1	29	<1	<10	2
	84-08-17	1344	255	20	1200	<1	36	<1	20	<10
DX-68-23-301	83-07-21	0725	--	--	--	<1	45	<1	<10	<1
	84-06-28	1215	--	--	150	<1	46	<1	<10	1
DX-68-23-303	84-07-24	1515	1040	15	4700	<1	50	<1	<10	1
	84-08-20	1420	1040	20	1500	<1	60	<1	<10	<10
DX-68-23-305	84-08-20	1100	102	--	1000	<1	59	<1	<10	<10
DX-68-23-316	84-08-16	1000	350	40	10	<1	40	<1	<10	1
DX-68-23-318	84-11-19	1150	620	50	450	<1	<100	1	<10	<1
DX-68-23-602	83-07-27	1105	790	20	275	<1	36	<1	10	6
DX-68-24-102	84-08-03	0930	211	--	4100	<1	48	<1	<10	<10

LOCAL IDENTIFIER	DATE OF SAMPLE	IRON, DISSOLVED (UG/L AS FE)	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)
DX-68-15-901	83-08-03	<3	2	<1	<.1	1	<1	18
DX-68-16-502	84-07-24	<3	1	<1	<.1	<1	<1	12
DX-68-22-901	83-08-01	6	<1	<1	<.1	1	<1	11
	84-08-17	<3	<10	<1	--	--	<1	30
DX-68-23-301	83-07-21	5	<1	<1	<.1	1	<1	4
	84-06-28	<3	<1	<1	<.1	<1	<1	6
DX-68-23-303	84-07-24	<3	<1	<1	<.1	<1	<1	18
	84-08-20	<3	<10	<1	--	--	<1	82
DX-68-23-305	84-08-20	<3	<10	<1	--	--	<1	50
DX-68-23-316	84-08-16	<3	7	<1	<.1	<1	<1	450
	84-11-19	50	1	<10	<.1	<1	1	<10
DX-68-23-602	83-07-27	<3	2	<1	<.1	1	<1	15
DX-68-24-102	84-08-03	<3	<10	<1	--	--	<1	25

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)
DX-68-22-901	83-08-01	0910	255	50	1480	<.1	<.10	<.010	<.1	<.010
DX-68-23-301	83-07-21	0725	--	--	--	<.1	<.10	<.010	<.1	<.010
DX-68-23-316	84-08-16	1000	350	40	10	<.1	<.10	<.010	<.1	<.010

LOCAL IDENTIFIER	DATE OF SAMPLE	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)
DX-68-22-901	83-08-01	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
DX-68-23-301	83-07-21	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
DX-68-23-316	84-08-16	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010

LOCAL IDENTIFIER	DATE OF SAMPLE	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)
DX-68-22-901	83-08-01	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
DX-68-23-301	83-07-21	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
DX-68-23-316	84-08-16	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

COMAL COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)
DX-68-22-901	83-08-01	<.01	<.01	<.01	<.01	<.01
DX-68-23-301	83-07-21	<.01	<.01	<.01	<.01	<.01
DX-68-23-318	84-08-16	<.01	<.01	<.01	<.01	<.01

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

HAYS COUNTY

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)
LR 58-57-101	83-07-20	1055	125	--	--	654	7.2	--	330	--
LR 58-57-303	83-07-21	1115	315	20	--	590	7.4	24.5	300	--
LR 58-58-105	83-07-21	1330	477	25	--	499	7.4	24.0	230	--
LR 58-58-403	83-07-22	1215	--	--	--	539	7.8	24.0	270	--
	84-06-27	1508	390	23	800	584	7.2	22.5	270	--
	84-09-13	1225	--	20	800	590	7.2	22.5	270	--
LR-58-57-202	83-07-21	0950	200	20	--	667	7.2	23.5	340	--
LR-58-57-402	83-07-21	0835	380	25	--	603	7.0	23.0	290	--
LR-58-57-901	83-07-22	1130	575	--	--	489	7.8	26.5	240	--
LR-58-58-106	84-06-26	1210	380	180	300	585	7.1	23.5	250	--
	84-09-13	1148	380	270	300	582	7.3	23.0	250	--
LR-58-58-406	83-07-25	1140	525	20	--	569	7.8	23.0	270	--
LR-58-58-701	84-05-08	1100	492	69	10	1560	7.3	23.5	250	--
	84-06-27	1228	492	63	10	1580	7.2	24.0	240	--
LR-58-58-707	84-06-27	1701	450	96	15	1480	7.3	24.0	250	--
LR-67-01-301	84-05-08	1430	336	45	15	535	7.3	23.5	220	--
	84-07-05	1315	336	45	15	534	7.2	23.5	220	--
LR-67-01-302	84-07-05	1215	360	195	440	720	7.3	24.5	220	--
	84-08-31	1245	360	180	400	700	7.0	25.5	--	--
LR-67-01-801	83-07-20	0855	--	--	--	591	7.1	21.5	250	8
	84-07-05	1405	--	--	--	590	7.0	22.0	250	--
	84-09-04	1130	--	--	--	580	6.5	--	250	--
	84-09-04	1100	--	--	--	--	--	--	--	--
LR-67-01-802	84-02-21	1155	200	40	1200	596	7.0	22.0	270	--
	84-08-30	--	200	--	1200	610	6.6	24.0	260	--
LR-67-01-806	83-07-25	1250	128	20	1900	618	7.1	22.5	260	--
	83-09-02	1015	128	2700	--	604	7.2	--	270	--
	84-02-21	1410	128	30	1900	608	7.0	22.5	270	--
	84-07-24	1205	128	1440	1900	600	6.9	22.5	260	--
	84-08-30	0955	128	--	--	--	--	--	--	--
LR-67-09-105	83-07-27	0745	330	20	500	603	7.1	23.0	260	<1
	84-07-06	0950	330	1440	1500	630	7.1	23.0	250	--
	84-08-30	--	330	--	--	620	6.6	24.0	--	--

LOCAL IDENT-I-FIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
LR 58-57-101	83-07-20	K3	K23	330	4	99	21	6.1	.90	13
LR 58-57-303	83-07-21	<1	52	310	14	81	27	7.4	.80	6.5
LR 58-58-105	83-07-21	25	73	240	15	60	23	6.7	1.4	19
LR 58-58-403	83-07-22	<1	39	300	27	76	26	6.5	1.3	27
	84-06-27	--	--	--	--	--	--	--	--	23
	84-09-13	--	--	--	--	--	--	--	--	--
LR-58-57-202	83-07-21	<1	K6	360	24	88	35	6.9	1.3	16
LR-58-57-402	83-07-21	<1	K9	330	37	65	40	7.2	2.9	30
LR-58-57-901	83-07-22	K3	K21	260	15	56	28	5.6	1.2	16
LR-58-58-106	84-06-26	--	--	--	--	--	--	--	--	--
	84-09-13	--	--	--	--	--	--	--	--	--
LR-58-58-406	83-07-25	<1	<1	300	30	77	26	6.5	1.3	15
LR-58-58-701	84-05-08	--	--	--	--	--	--	--	--	--
	84-06-27	--	--	380	140	77	46	190	12	270
LR-58-58-707	84-06-27	--	--	--	--	--	--	--	--	280
LR-67-01-301	84-05-08	--	--	--	--	--	--	--	--	--
	84-07-05	--	--	--	--	--	--	--	--	--
LR-67-01-302	84-07-05	--	--	--	--	--	--	--	--	140
	84-08-31	--	--	350	--	60	39	12	2.3	130
LR-67-01-801	83-07-20	7	<1	270	22	79	18	11	1.7	25
	84-07-05	--	--	290	41	85	19	12	1.7	25
	84-09-04	--	--	280	30	82	18	11	2.0	23
	84-09-04	--	--	--	--	--	--	--	--	--
LR-67-01-802	84-02-21	--	--	--	--	--	--	--	--	--
	84-08-30	--	--	300	38	91	17	11	1.6	24

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

HAYS COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
LR-67-01-806	83-07-25	--	--	290	28	87	17	12	1.4	24
	83-09-02	--	--	--	--	--	--	--	--	--
	84-02-21	--	--	--	--	--	--	--	--	--
	84-07-24	--	--	300	45	94	17	12	1.5	26
	84-08-30	--	--	--	--	--	--	--	--	--
LR-67-09-105	83-07-27	<1	<1	290	28	87	17	14	1.5	29
	84-07-06	--	--	300	52	91	18	16	1.6	30
	84-08-30	--	--	270	--	77	18	14	1.9	29

LOCAL IDENT-I-FIER	DATE OF SAMPLE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	IODIDE, DISSOLVED (MG/L AS I)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
LR 58-57-101	83-07-20	9.8	.20	13	--	360	.90	--	.030	--
LR 58-57-303	83-07-21	14	.20	12	--	330	2.0	--	.040	--
LR 58-58-105	83-07-21	12	.40	11	--	270	2.5	--	.070	--
LR 58-58-403	83-07-22	12	.50	11	--	320	2.0	--	.060	--
	84-06-27	12	--	--	--	--	--	--	--	--
	84-09-13	--	--	--	--	--	--	--	--	--
LR-58-57-202	83-07-21	14	.30	12	--	380	1.9	--	.040	--
LR-58-57-402	83-07-21	14	.80	13	--	350	--	--	.070	--
LR-58-57-901	83-07-22	9.0	.40	11	--	270	.80	--	.080	--
LR-58-58-106	84-06-26	--	--	--	--	--	--	--	--	--
	84-09-13	--	--	--	--	--	--	--	--	--
LR-58-58-406	83-07-25	12	.30	11	--	310	2.1	--	.090	--
LR-58-58-701	84-05-08	--	--	--	--	--	--	--	--	--
	84-06-27	220	4.0	13	--	980	--	.810	--	<.010
LR-58-58-707	84-06-27	180	--	--	--	--	--	--	--	--
LR-67-01-301	84-05-08	--	--	--	--	--	--	--	--	--
	84-07-05	--	--	--	--	--	--	--	--	--
LR-67-01-302	84-07-05	11	--	--	--	--	--	--	--	--
	84-08-31	11	4.0	13	--	--	--	.060	--	<.010
LR-67-01-801	83-07-20	20	.20	11	.001	320	1.5	--	.040	--
	84-07-05	20	.20	11	--	320	1.2	--	.020	--
	84-09-04	17	.30	11	--	320	--	--	--	--
	84-09-04	17	--	--	--	--	--	.010	--	<.010
LR-67-01-802	84-02-21	--	--	--	--	--	1.8	--	.010	--
	84-08-30	16	.20	12	--	330	--	<.010	--	<.010
LR-67-01-806	83-07-25	20	.20	12	.002	330	2.8	--	.040	--
	83-09-02	--	--	--	--	--	--	--	--	--
	84-02-21	--	--	--	--	--	1.8	--	.010	--
	84-07-24	20	.20	12	--	340	1.4	--	.090	--
	84-08-30	--	--	--	--	--	--	--	--	--
LR-67-09-105	83-07-27	24	.20	12	.002	340	2.1	--	.040	--
	84-07-06	24	.20	12	--	340	--	--	.010	--
	84-08-30	22	.30	12	--	--	--	<.010	--	<.010

LOCAL IDENT-I-FIER	DATE OF SAMPLE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
LR 58-57-101	83-07-20	<.020	.50	.40	--	.030	--
LR 58-57-303	83-07-21	<.020	.80	1.2	--	.020	--
LR 58-58-105	83-07-21	<.020	.90	1.6	--	.020	--
LR 58-58-403	83-07-22	<.020	.60	1.4	--	.010	--
	84-06-27	--	--	--	--	--	--
	84-09-13	--	--	--	--	--	--
LR-58-57-202	83-07-21	<.020	.80	1.1	--	.010	--
LR-58-57-402	83-07-21	<.020	.50	<.10	--	.030	--
LR-58-57-901	83-07-22	<.020	.30	.50	--	.010	--
LR-58-58-106	84-06-26	--	--	--	--	--	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

HAYS COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
LR-58-58-106	84-09-13	--	--	--	--	--	--
LR-58-58-406	83-07-25	<.020	.50	1.6	--	.010	--
LR-58-58-701	84-05-08	--	--	--	--	--	--
	84-06-27	--	--	--	<.10	--	--
LR-58-58-707	84-06-27	--	--	--	--	--	--
LR-67-01-301	84-05-08	--	--	--	--	--	--
	84-07-05	--	--	--	--	--	--
LR-67-01-302	84-07-05	--	--	--	--	--	--
	84-08-31	--	--	--	<.10	--	.30
LR-67-01-801	83-07-20	<.020	.40	1.1	--	.040	1.0
	84-07-05	<.010	.30	.90	--	.010	.90
	84-09-04	--	--	--	--	--	--
	84-09-04	--	--	--	1.2	--	1.3
LR-67-01-802	84-02-21	<.010	.20	1.6	--	<.010	.50
	84-08-30	--	--	--	1.6	--	.50
LR-67-01-806	83-07-25	<.020	1.1	1.7	--	.020	.50
	83-09-02	--	--	--	--	--	--
	84-02-21	<.010	.20	1.6	--	<.010	.50
	84-07-24	<.010	.40	1.0	--	<.010	--
	84-08-30	--	--	--	--	--	.50
LR-67-09-105	83-07-27	<.020	.50	1.6	--	.030	.40
	84-07-06	<.010	<.20	1.0	--	.010	.30
	84-08-30	--	--	--	1.6	--	.40

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)
LR-67-09-111	83-08-08	1125	264	25	130	575	7.2	23.5	260	--
LR-68-16-601	84-05-07	1003	200	40	5.0	1730	7.1	24.0	300	--
	84-07-06	1210	200	78	5.0	1730	7.6	24.5	290	--

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
LR-67-09-111	83-08-08	--	--	--	--	--	--	--	--	--
LR-68-16-601	84-05-07	--	--	--	--	--	--	--	--	--
	84-07-06	--	--	590	300	130	65	170	7.3	270

LOCAL IDENTIFIER	DATE OF SAMPLE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	IODIDE, DISSOLVED (MG/L AS I)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
LR-67-09-111	83-08-08	--	--	--	--	--	2.8	--	.040	--
LR-68-16-601	84-05-07	--	--	--	--	--	--	--	--	--
	84-07-06	250	1.8	13	--	1100	--	.500	--	<.010

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

HAYS COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
LR-67-09-111	83-08-08	<.020	1.1	1.7	--	.040	.60
LR-68-16-601	84-05-07	--	--	--	--	--	--
	84-07-06	--	--	--	<.10	--	--

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	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)
LR-67-01-302	84-08-31	1245	360	180	400	<1	62	<1	<10	<10
LR-67-01-801	83-07-20	0855	--	--	--	<1	33	<1	<10	1
	84-07-05	1405	--	--	--	<1	44	<1	<10	<1
	84-09-04	--	--	--	--	<1	45	<1	<10	100
LR-67-01-802	84-08-30	--	200	--	--	<1	50	<1	<10	<10
LR-67-01-806	83-07-25	1250	128	20	1900	<1	37	<1	<10	4
	84-07-24	1205	128	1440	1900	<1	37	<1	<10	1
LR-67-09-105	83-07-27	0745	330	20	500	<1	38	<1	<10	2
	84-07-06	0950	330	1440	1500	<1	48	<1	<10	2
	84-08-30	--	330	--	--	<1	51	<1	<10	<10

LOCAL IDENTIFIER	DATE OF SAMPLE	IRON, DISSOLVED (UG/L AS FE)	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)
LR-67-01-302	84-08-31	23	<10	3	--	--	<1	25
LR-67-01-801	83-07-20	3	<1	<1	<.1	1	<1	<3
	84-07-05	<3	<1	<1	>.1	<1	<1	29
	84-09-04	8	<10	3	--	--	<1	170
LR-67-01-802	84-08-30	<3	<10	<1	--	--	<1	17
LR-67-01-806	83-07-25	8	<1	<1	<.1	1	<1	<3
	84-07-24	3	1	<1	<.1	<1	<1	14
LR-67-09-105	83-07-27	6	<1	<1	<.1	1	<1	6
	84-07-06	6	<1	<1	<.1	<1	<1	39
	84-08-30	<3	<10	2	--	--	<1	<3

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)
LR-67-01-801	83-07-20	0855	--	--	--	<.1	<.10	<.010	<.1	<.010
LR-67-09-111	83-08-08	1125	264	25	130	<.1	<.10	<.010	<.1	<.010

LOCAL IDENTIFIER	DATE OF SAMPLE	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)
LR-67-01-801	83-07-20	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
LR-67-09-111	83-08-08	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

HAYS COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)
LR-67-01-801	83-07-20	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
LR-67-09-111	83-08-08	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01

LOCAL IDENT-I-FIER	DATE OF SAMPLE	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)
LR-67-01-801	83-07-20	<.01	<.01	<.01	<.01	<.01
LR-67-09-111	83-08-08	<.01	<.01	<.01	<.01	<.01

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

MEDINA COUNTY

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)
TD-68-41-303	83-08-18	0900	717	20	430	490	7.3	24.0	200	--
	84-06-07	1120	717	60	370	490	7.4	24.0	210	--
	84-08-09	1130	717	90	400	493	--	--	--	--
TD-68-42-503	83-08-18	1000	1370	20	685	466	7.2	26.0	190	--
	84-06-01	1420	1370	35	600	473	7.2	26.0	200	--
TD-68-49-813	83-09-08	1210	3190	60	300	1140	7.4	40.5	290	--
	84-07-06	1045	3190	75	118	1140	7.1	41.0	290	--
	84-07-31	1130	3190	--	70	1180	7.3	41.5	--	--
TD-69-29-901	83-09-07	1330	276	30	20	465	7.2	23.0	220	--
	84-08-14	1150	276	35	20	460	7.2	23.0	230	--
TD-69-37-302	83-08-17	0920	410	20	20	483	7.3	23.0	220	--
	84-06-04	1115	410	240	20	500	7.2	23.0	220	--
TD-69-46-601	83-08-17	1140	1280	15	305	472	7.3	24.0	210	--
	84-08-14	1405	1280	1440	350	480	7.4	23.5	210	--
	84-08-21	1445	1280	120	350	--	--	--	--	--
TD-69-47-301	84-08-21	1300	1510	1440	1000	490	7.1	25.0	200	--
TD-69-47-303	83-08-17	1325	1800	20	1150	472	7.3	24.5	210	--
TD-69-54-401	84-07-10	1225	2000	35	20	510	7.2	24.5	200	--
TD-69-55-401	84-07-10	0935	2260	1655	1500	520	7.2	24.0	210	--
TD-69-56-501	84-06-11	1555	2640	1440	3700	520	7.2	28.0	210	--
TD-69-56-507	84-07-06	1045	2720	165	1700	480	7.4	34.5	190	--
TD-69-56-508	84-06-11	1515	2710	1440	2700	490	7.4	33.0	210	--

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
TD-68-41-303	83-08-18	--	--	230	31	66	16	9.4	1.1	17
	84-06-07	--	--	230	24	69	15	9.2	1.1	17
	84-08-09	--	--	--	--	--	--	--	--	--
TD-68-42-503	83-08-18	--	--	220	29	61	16	8.3	1.0	15
	84-06-01	--	--	230	26	64	16	8.3	.90	14
TD-68-49-813	83-09-08	--	--	230	0	56	23	130	7.0	47
	84-07-06	--	--	230	0	56	23	140	7.2	69
	84-07-31	--	--	240	--	57	23	120	6.4	110
TD-69-29-901	83-09-07	--	--	230	6	79	6.8	5.6	.80	13
	84-08-14	--	--	240	9	84	7.0	5.7	.70	11
TD-69-37-302	83-08-17	--	--	240	18	72	14	6.8	1.0	18
	84-06-04	--	--	250	31	79	13	7.6	1.1	16
TD-69-46-601	83-08-17	--	--	230	17	66	15	7.5	1.0	17
	84-08-14	--	--	230	18	68	14	7.2	1.2	16
	84-08-21	--	--	--	--	--	--	--	--	--
TD-69-47-301	84-08-21	--	--	230	27	66	15	7.9	1.4	18
TD-69-47-303	83-08-17	--	--	220	12	64	15	8.0	1.1	17
TD-69-54-401	84-07-10	--	--	--	--	--	--	--	--	19
TD-69-55-401	84-07-10	--	--	--	--	--	--	--	--	17
TD-69-56-501	84-06-11	--	--	230	21	66	16	12	1.2	21
TD-69-56-507	84-07-06	--	--	210	22	50	21	9.9	1.3	33
TD-69-56-508	84-06-11	--	--	240	31	60	22	11	1.2	23

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)
TD-68-41-303	83-08-18	19	.20	12	260	2.6	--	<.010	--	<.020
	84-06-07	19	.20	12	270	2.7	--	<.010	--	<.010
	84-08-09	20	--	--	--	--	<.010	--	<.010	--
TD-68-42-503	83-08-18	19	.20	12	250	2.3	--	<.010	--	<.020
	84-06-01	19	.20	12	250	2.5	--	<.010	--	.010

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

MEDINA COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	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)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)
TD-68-49-813	83-09-08	190	4.6	22	650	--	--	.690	--	.020
	84-07-06	190	4.8	23	690	--	--	.680	--	<.010
	84-07-31	170	4.2	21	--	--	.630	--	<.010	--
TD-69-29-901	83-09-07	8.7	.10	12	260	1.8	--	.010	--	.020
	84-08-14	8.5	.10	12	270	1.4	--	<.010	--	<.010
TD-69-37-302	83-08-17	10	.30	13	270	2.0	--	<.010	--	<.020
	84-06-04	11	.20	13	270	3.4	--	.010	--	<.010
TD-69-46-601	83-08-17	14	.30	12	260	2.3	--	<.010	--	<.020
	84-08-14	14	.20	12	260	1.9	--	<.010	--	<.010
	84-08-21	14	--	--	--	--	--	--	--	--
TD-69-47-301	84-08-21	10	.20	13	250	--	<.010	--	<.010	--
TD-69-47-303	83-08-17	13	.30	13	260	1.8	--	.010	--	<.020
TD-69-54-401	84-07-10	22	--	--	--	--	--	--	--	--
TD-69-55-401	84-07-10	29	--	--	--	--	--	--	--	--
TD-69-56-501	84-06-11	24	.30	12	280	--	.020	--	<.010	--
TD-69-56-507	84-07-06	13	.70	15	260	--	--	.010	<.010	<.010
TD-69-56-508	84-06-11	18	1.0	14	280	--	.020	--	<.010	--

LOCAL IDENT-I-FIER	DATE OF SAMPLE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
TD-68-41-303	83-08-18	.50	2.1	--	<.010	.50
	84-06-07	.60	2.1	--	.010	.30
	84-08-09	--	--	2.0	--	.30
TD-68-42-503	83-08-18	.50	1.8	--	<.010	.30
	84-06-01	.70	1.8	--	.020	.20
TD-68-49-813	83-09-08	.70	<.10	--	.010	.40
	84-07-06	.70	<.10	--	.010	.20
	84-07-31	--	--	<.10	--	.80
TD-69-29-901	83-09-07	.70	1.1	--	.010	.30
	84-08-14	.30	1.1	--	.010	.30
TD-69-37-302	83-08-17	.40	1.6	--	.130	.40
	84-06-04	.70	2.7	--	.010	.90
TD-69-46-601	83-08-17	.70	1.6	--	<.010	.30
	84-08-14	.30	1.6	--	<.010	.20
	84-08-21	--	--	--	--	.90
TD-69-47-301	84-08-21	--	--	1.5	--	.80
TD-69-47-303	83-08-17	.20	1.6	--	<.010	.30
TD-69-54-401	84-07-10	--	--	--	--	--
TD-69-55-401	84-07-10	--	--	--	--	--
TD-69-56-501	84-06-11	--	--	1.8	--	--
TD-69-56-507	84-07-06	<.20	.40	--	.010	.60
TD-69-56-508	84-06-11	--	--	.78	--	--

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	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)
TD-68-41-303	83-08-18	0900	717	20	430	1	48	<1	<10	2
	84-06-07	1120	717	60	370	<1	54	<1	<10	1
TD-68-42-503	83-08-18	1000	1370	20	685	1	72	<1	<10	1
	84-06-01	1420	1370	35	600	<1	81	<1	<10	2
TD-68-49-813	83-09-08	1210	3190	60	300	<1	260	<1	<10	<1

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

MEDINA COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	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)
TD-68-49-813	84-07-06	1045	3190	75	118	<1	300	<1	<10	<1
	84-07-31	1130	3190	--	70	<1	280	2	<10	<10
TD-69-29-901	83-09-07	1330	276	30	20	<1	30	<1	<10	4
	84-08-14	1150	276	35	20	<1	41	<1	<10	4
TD-69-37-302	83-08-17	0920	410	20	20	<1	33	<1	<10	<1
	84-06-04	1115	410	240	20	<1	42	<1	<10	2
TD-69-46-601	83-08-17	1140	1280	15	305	1	36	<1	<10	2
	84-08-14	1405	1280	1440	350	<1	43	<1	<10	4
TD-69-47-301	84-08-21	1300	1510	1440	1000	<1	50	<1	<10	<10
TD-69-47-303	83-08-17	1325	1800	20	1150	<1	39	<1	<10	<1
TD-69-56-507	84-07-06	1045	2720	165	1700	<1	200	2	<10	<1

LOCAL IDENTIFIER	DATE OF SAMPLE	IRON, DISSOLVED (UG/L AS FE)	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)
TD-68-41-303	83-08-18	4	<1	<1	<.1	<1	<1	6
	84-06-07	<3	<1	<1	<.1	<1	<1	13
TD-68-42-503	83-08-18	4	1	<1	.3	<1	<1	6
	84-06-01	<3	<1	<1	.2	<1	<1	8
TD-68-49-813	83-09-08	80	2	24	.2	<1	<1	7
	84-07-06	69	<1	34	.1	<1	<1	11
	84-07-31	29	10	68	--	--	<1	12
TD-69-29-901	83-09-07	3	3	<1	<.1	<1	<1	470
	84-08-14	3	2	<1	<.1	<1	<1	530
TD-69-37-302	83-08-17	4	<1	<1	<.1	<1	<1	54
	84-06-04	4	<1	<1	<.1	<1	<1	47
TD-69-46-601	83-08-17	5	<1	<1	.2	1	<1	7
	84-08-14	4	2	2	.2	<1	<1	<3
TD-69-47-301	84-08-21	3	<10	3	--	--	<1	39
TD-69-47-303	83-08-17	7	1	<1	<.1	<1	<1	14
TD-69-56-507	84-07-06	10	3	5	<.1	11	<1	21

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)
TD-69-29-901	84-08-14	1150	276	35	20	<.1	<.10	<.010	<.1	<.010
TD-69-37-302	83-08-17	0920	410	20	20	<.1	<.10	<.010	<.1	<.010
TD-69-47-303	83-08-17	1325	1800	20	1150	<.1	<.10	<.010	<.1	<.010

LOCAL IDENTIFIER	DATE OF SAMPLE	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)
TD-69-29-901	84-08-14	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
TD-69-37-302	83-08-17	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
TD-69-47-303	83-08-17	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

MEDINA COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)
TD-69-29-901	84-08-14	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
TD-69-37-302	83-08-17	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
TD-69-47-303	83-08-17	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01

LOCAL IDENTIFIER	DATE OF SAMPLE	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)
TD-69-29-901	84-08-14	.03	<.01	<.01	<.01	<.01
TD-69-37-302	83-08-17	<.01	<.01	<.01	<.01	<.01
TD-69-47-303	83-08-17	<.01	<.01	<.01	<.01	<.01

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

UVALDE COUNTY

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)
YP-69-35-801	84-08-24	0930	600	1440	700	440	7.2	23.0	190	--
YP-69-42-606	84-06-01	1040	525	180	1200	590	7.1	23.0	200	--
YP-69-43-302	84-08-21	1430	630	41	1900	520	7.2	23.0	200	--
YP-69-43-306	84-08-21	1330	528	40	15	1200	7.1	23.0	170	--
YP-69-43-606	83-08-16	1050	698	10	250	517	7.1	24.5	200	--
	84-08-22	1300	698	240	250	530	6.8	24.5	200	--
YP-69-43-804	84-08-22	0845	967	2880	800	620	6.8	24.5	--	--
YP-69-44-402	84-08-21	1700	743	7200	1000	570	7.0	24.5	--	--
YP-69-45-404	83-08-15	1220	1490	45	430	872	7.3	23.0	210	--
	84-02-07	1300	1490	35	430	1060	7.0	23.0	220	--
YP-69-45-405	83-08-19	1250	1210	25	520	482	7.4	23.0	210	--
	84-02-06	1414	1210	14	520	476	7.3	22.5	210	--
YP-69-49-101	84-07-03	1430	842	35	20	1370	7.0	27.0	470	--
YP-69-50-203	83-08-19	1525	525	15	1400	548	7.1	23.0	210	--
	84-02-01	1132	525	15	1400	554	7.3	22.5	210	--
	84-08-23	1000	525	1440	1250	560	6.7	23.5	210	--
YP-69-50-207	84-02-01	1210	265	13	1100	518	7.3	22.5	210	--
YP-69-50-319	84-04-05	1505	--	25	15	984	6.8	24.0	270	--
YP-69-50-501	84-07-03	1853	600	1135	800	1080	6.9	22.5	220	--
	84-08-23	1300	600	>1440	800	1100	6.7	23.0	220	--
YP-69-50-506	83-08-19	1445	525	20	465	567	7.1	23.5	210	--
	84-08-23	1505	525	425	480	550	7.5	23.5	220	--
YP-69-50-601	84-02-02	1353	562	31	900	818	--	24.5	220	--
	84-07-04	1015	562	55	900	750	6.8	23.0	260	--
YP-69-50-603	84-08-22	1700	355	4320	500	670	6.6	22.5	--	--
YP-69-50-609	84-01-31	1210	650	30	600	695	7.1	23.5	210	--
YP-69-50-613	84-08-22	1340	--	50	15	810	7.4	23.5	240	--
YP-69-50-901	84-07-18	0910	604	5	400	1700	6.8	30.5	230	--
YP-69-51-104	84-02-01	1251	430	17	500	859	7.1	24.0	260	--
	84-04-05	1405	430	1440	500	804	7.1	24.0	260	--
	84-08-23	1410	430	370	500	800	7.3	24.5	260	--
YP-69-51-106	84-08-22	1125	--	15	15	810	7.1	26.0	260	--
YP-69-51-107	84-08-23	1110	310	25	15	820	7.3	25.5	260	--
YP-69-51-114	84-04-05	1120	565	20	500	815	6.9	24.5	320	--

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
YP-69-35-801	84-08-24	--	--	210	23	62	14	6.2	.90	14
YP-69-42-606	84-06-01	--	--	260	59	88	9.5	17	1.0	14
YP-69-43-302	84-08-21	--	--	230	30	74	11	12	1.0	14
YP-69-43-306	84-08-21	--	--	540	370	170	28	19	2.1	14
YP-69-43-606	83-08-16	--	--	220	24	73	10	12	1.0	14
	84-08-22	--	--	240	37	78	10	11	1.0	14
YP-69-43-804	84-08-22	--	--	--	--	87	<1.0	15	1.3	29
YP-69-44-402	84-08-21	--	--	250	--	80	12	13	1.3	15
YP-69-45-404	83-08-15	--	--	380	170	93	35	40	5.0	230
	84-02-07	--	--	460	240	110	44	52	6.7	310
YP-69-45-405	83-08-19	--	--	220	15	67	14	7.8	1.1	20
	84-02-06	--	--	230	25	71	14	7.6	1.0	18
YP-69-49-101	84-07-03	--	--	--	--	--	--	--	--	190
YP-69-50-203	83-08-19	--	--	240	33	79	11	14	1.1	16
	84-02-01	--	--	260	51	88	10	14	1.0	18
	84-08-23	--	--	250	42	84	10	14	1.0	17
YP-69-50-207	84-02-01	--	--	--	--	--	--	--	--	--
YP-69-50-319	84-04-05	--	--	--	--	--	--	--	--	--
YP-69-50-501	84-07-03	--	--	--	--	--	--	--	--	87
	84-08-23	--	--	450	230	150	17	44	1.4	92

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

UVALDE COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
YP-69-50-506	83-08-19	--	--	240	35	84	8.4	15	1.0	20
	84-08-23	--	--	240	19	82	8.2	15	1.3	20
YP-69-50-601	84-02-02	--	--	370	150	130	12	28	1.5	110
	84-07-04	--	--	--	--	--	--	--	--	59
YP-69-50-603	84-08-22	--	--	280	--	95	11	23	.90	39
YP-69-50-609	84-01-31	--	--	320	110	110	10	27	1.1	42
YP-69-50-613	84-08-22	--	--	290	46	96	11	53	1.4	79
YP-69-50-901	84-07-18	--	--	620	390	190	35	150	7.4	310
YP-69-51-104	84-02-01	--	--	380	120	130	14	29	1.2	42
	84-04-05	--	--	--	--	--	--	--	--	--
	84-08-23	--	--	350	94	120	13	25	1.7	46
YP-69-51-106	84-08-22	--	--	360	98	120	14	23	1.4	50
YP-69-51-107	84-08-23	--	--	360	98	120	14	26	1.6	47
YP-69-51-114	84-04-05	--	--	--	--	--	--	--	--	--

LOCAL IDENTIFIER	DATE OF SAMPLE	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)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)
YP-69-35-801	84-08-24	10	.10	10	230	--	--	--	--	--
YP-69-42-606	84-06-01	44	<.10	13	310	--	--	<.010	--	<.010
YP-69-43-302	84-08-21	29	<.10	11	270	--	--	--	--	--
YP-69-43-306	84-08-21	270	.10	13	620	--	<.010	--	--	--
YP-69-43-606	83-08-16	26	.10	12	270	3.3	--	<.010	--	<.020
	84-08-22	26	.10	11	270	--	<.010	--	<.010	--
YP-69-43-804	84-08-22	27	.80	14	--	--	<.010	--	<.010	--
YP-69-44-402	84-08-21	38	.10	13	--	--	<.010	--	<10.0	--
YP-69-45-404	83-08-15	27	.50	13	570	2.5	--	.040	--	<.020
	84-02-07	32	.90	12	700	--	.100	--	--	--
YP-69-45-405	83-08-19	13	.20	13	260	2.4	--	<.010	--	<.020
	84-02-06	13	.20	12	260	2.1	--	.020	--	<.010
YP-69-49-101	84-07-03	120	--	--	--	--	--	--	--	--
YP-69-50-203	83-08-19	36	.10	13	300	3.7	--	<.010	--	<.020
	84-02-01	35	.10	12	300	3.3	--	<.010	--	<.010
	84-08-23	35	.10	12	300	--	<.010	--	<.010	--
YP-69-50-207	84-02-01	--	--	--	--	2.9	--	<.010	--	<.010
YP-69-50-319	84-04-05	--	--	--	--	--	--	--	--	--
YP-69-50-501	84-07-03	170	--	--	--	--	--	--	--	--
	84-08-23	160	.20	15	610	--	--	--	--	--
YP-69-50-506	83-08-19	31	.20	13	300	3.3	--	<.010	--	<.020
	84-08-23	25	.20	13	300	--	--	.020	--	<.010
YP-69-50-601	84-02-02	67	.50	13	490	1.9	--	.010	--	<.010
	84-07-04	53	--	--	--	--	--	--	--	--
YP-69-50-603	84-08-22	39	.10	12	--	--	<.010	--	<.010	--
YP-69-50-609	84-01-31	100	.20	13	430	4.6	--	<.010	--	<.010
YP-69-50-613	84-08-22	55	.10	13	450	6.8	--	.020	--	<.010
YP-69-50-901	84-07-18	280	1.5	20	1100	--	.280	--	<.010	--
YP-69-51-104	84-02-01	100	.50	16	490	4.5	--	<.010	--	<.010
	84-04-05	--	--	--	--	--	--	--	--	--
	84-08-23	73	.50	16	450	3.4	--	.050	--	<.010
YP-69-51-106	84-08-22	72	.60	15	450	3.3	--	.040	--	<.010
YP-69-51-107	84-08-23	73	.50	16	450	--	--	--	--	--
YP-69-51-114	84-04-05	--	--	--	--	--	--	--	--	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

UVALDE COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
YP-69-35-801	84-08-24	--	--	--	--	--
YP-69-42-606	84-06-01	.70	<.10	--	.020	.40
YP-69-43-302	84-08-21	--	--	--	--	.50
YP-69-43-306	84-08-21	--	--	9.0	--	--
YP-69-43-606	83-08-16	.40	2.9	--	.130	.50
	84-08-22	--	--	2.8	--	.80
YP-69-43-804	84-08-22	--	--	2.0	--	.50
YP-69-44-402	84-08-21	--	--	3.1	--	.70
YP-69-45-404	83-08-15	.70	1.8	--	.140	.40
	84-02-07	--	--	1.6	--	.20
YP-69-45-405	83-08-19	.70	1.7	--	.150	.30
	84-02-06	.50	1.6	--	<.010	.40
YP-69-49-101	84-07-03	--	--	--	--	--
YP-69-50-203	83-08-19	.90	2.8	--	.020	.40
	84-02-01	.50	2.8	--	.010	.30
	84-08-23	--	--	2.8	--	1.2
YP-69-50-207	84-02-01	.40	2.5	--	.010	.40
YP-69-50-319	84-04-05	--	--	--	--	--
YP-69-50-501	84-07-03	--	--	--	--	--
	84-08-23	--	--	--	--	--
YP-69-50-506	83-08-19	.40	2.9	--	.130	.30
	84-08-23	<.20	2.6	--	.010	.30
YP-69-50-601	84-02-02	.20	1.7	--	.010	.20
	84-07-04	--	--	--	--	--
YP-69-50-603	84-08-22	--	--	3.0	--	1.1
YP-69-50-609	84-01-31	.80	3.8	--	<.010	.30
YP-69-50-613	84-08-22	.60	6.2	--	.010	.90
YP-69-50-901	84-07-18	--	--	<.10	--	--
YP-69-51-104	84-02-01	.50	4.0	--	<.010	.30
	84-04-05	--	--	--	--	--
	84-08-23	.30	3.1	--	<.010	.80
YP-69-51-106	84-08-22	.50	2.8	--	<.010	.70
YP-69-51-107	84-08-23	--	--	--	--	--
YP-69-51-114	84-04-05	--	--	--	--	--

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)
YP-69-51-114	84-08-23	0945	565	--	500	820	7.1	24.5	260	--
YP-69-51-409	84-08-22	1330	--	20	15	1210	7.1	24.0	310	--
YP-69-51-502	84-07-04	1610	350	15	5.0	1250	6.5	25.0	370	--
YP-69-51-702	84-07-17	1100	1000	1440	3000	2460	6.7	31.0	180	--
YP-69-51-703	84-07-17	1149	1580	1440	3000	2800	6.7	34.0	180	--
YP-69-51-704	84-07-17	1215	1640	1440	3000	3330	6.8	35.0	180	--
YP-69-51-705	84-07-17	1239	1660	1440	3000	3460	6.8	36.0	180	--
YP-69-52-403	84-07-04	1445	1400	410	600	3030	6.6	33.0	280	--
YP-69-53-202	84-07-08	1010	1230	130	1950	590	7.1	23.5	200	--
YP-69-59-101	84-07-17	1304	1640	1440	3000	3600	6.9	36.0	180	--
YP-70-56-202	84-07-03	1700	1100	485	600	990	6.9	23.5	360	--

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

UVALDE COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	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)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
YP-69-51-114	84-08-23	--	--	360	98	120	14	26	1.4	45
YP-69-51-409	84-08-22	--	--	470	160	160	17	58	1.9	83
YP-69-51-502	84-07-04	--	--	--	--	--	--	--	--	320
YP-69-51-702	84-07-17	--	--	1200	1000	380	57	150	14	890
YP-69-51-703	84-07-17	--	--	1300	1100	420	62	160	13	1100
YP-69-51-704	84-07-17	--	--	1800	1600	610	67	170	19	1600
YP-69-51-705	84-07-17	--	--	1900	1700	640	72	170	16	1800
YP-69-52-403	84-07-04	--	--	--	--	--	--	--	--	890
YP-69-53-202	84-07-08	--	--	--	--	--	--	--	--	23
YP-69-59-101	84-07-17	--	--	2000	1800	670	75	170	16	1800
YP-70-56-202	84-07-03	--	--	--	--	--	--	--	--	32

LOCAL IDENT-I-FIER	DATE OF SAMPLE	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)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)
YP-69-51-114	84-08-23	76	.60	16	460	--	--	.020	--	<.010
YP-69-51-409	84-08-22	150	.40	17	670	3.9	--	.040	--	<.010
YP-69-51-502	84-07-04	77	--	--	--	--	--	--	--	--
YP-69-51-702	84-07-17	250	2.3	18	1900	--	.500	--	<.010	--
YP-69-51-703	84-07-17	260	2.4	18	2100	--	.330	--	<.010	--
YP-69-51-704	84-07-17	260	2.1	20	2900	--	.550	--	<.010	--
YP-69-51-705	84-07-17	260	2.2	20	3100	--	.460	--	<.010	--
YP-69-52-403	84-07-04	420	--	--	--	--	--	--	--	--
YP-69-53-202	84-07-08	43	--	--	--	--	--	--	--	--
YP-69-59-101	84-07-17	260	2.2	17	3100	--	.690	--	<.010	--
YP-70-56-202	84-07-03	78	--	--	--	--	--	--	--	--

LOCAL IDENT-I-FIER	DATE OF SAMPLE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
YP-69-51-114	84-08-23	<.20	3.1	--	<.010	.60
YP-69-51-409	84-08-22	.30	3.6	--	<.010	.90
YP-69-51-502	84-07-04	--	--	--	--	--
YP-69-51-702	84-07-17	--	--	<.10	--	--
YP-69-51-703	84-07-17	--	--	<.10	--	--
YP-69-51-704	84-07-17	--	--	<.10	--	--
YP-69-51-705	84-07-17	--	--	<.10	--	--
YP-69-52-403	84-07-04	--	--	--	--	--
YP-69-53-202	84-07-08	--	--	--	--	--
YP-69-59-101	84-07-17	--	--	1.3	--	--
YP-70-56-202	84-07-03	--	--	--	--	--

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	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)
YP-69-35-801	84-08-24	0930	600	--	700	<1	44	<1	<10	10
YP-69-42-606	84-06-01	1040	525	180	1200	<1	59	<1	<10	<1
YP-69-43-302	84-08-21	1430	630	41	1900	<1	53	<1	<10	1
YP-69-43-606	83-08-16	1050	698	10	250	1	50	<1	<10	5
	84-08-22	1300	698	240	250	<1	56	<1	<10	<10

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

UVALDE COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	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)
YP-69-43-804	84-08-22	0845	967	--	800	<1	130	<1	<10	10
YP-69-44-402	84-08-21	1700	743	--	1000	<1	63	2	<10	30
YP-69-45-404	83-08-15	1220	1490	45	430	1	56	<1	<10	4
	84-02-07	1300	1490	35	430	1	52	<1	<10	<1
YP-69-45-405	83-08-19	1250	1210	25	520	1	36	<1	<10	3
	84-02-06	1414	1210	14	520	<1	36	<1	<10	2
YP-69-50-203	83-08-19	1525	525	15	1400	2	51	<1	<10	1
	84-02-01	1132	525	15	1400	<1	51	<1	<10	3
	84-08-23	1000	525	1440	1250	<1	60	<1	<10	<10
YP-69-50-501	84-08-23	1300	600	>1440	--	<1	99	<1	<10	<10
YP-69-50-506	83-08-19	1445	525	20	465	<1	61	<1	<10	<1
	84-08-23	1505	525	425	480	<1	74	<1	<10	<1
YP-69-50-601	84-02-02	1353	562	31	900	<1	59	<1	<10	<1
YP-69-50-603	84-08-22	1700	355	--	500	<1	77	<1	<10	<10
YP-69-50-609	84-01-31	1210	650	30	600	1	99	<1	<10	<1
YP-69-50-613	84-08-22	1340	--	50	15	<1	78	<1	<10	2
YP-69-51-104	84-02-01	1251	430	17	500	<1	110	<1	<10	5
	84-08-23	1410	430	370	500	<1	120	<1	<10	2
YP-69-51-106	84-08-22	1125	--	15	15	<1	110	<1	<10	1
YP-69-51-107	84-08-23	1110	310	25	15	<1	110	<1	<10	4
YP-69-51-114	84-08-23	0945	565	--	500	<1	120	<1	<10	<1
YP-69-51-409	84-08-22	1330	--	20	15	<1	140	<1	<10	7

LOCAL IDENTIFIER	DATE OF SAMPLE	IRON, DISSOLVED (UG/L AS FE)	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)
YP-69-35-801	84-08-24	4	<10	<1	--	--	<1	16
YP-69-42-606	84-06-01	<3	<1	<1	.1	<1	<1	25
YP-69-43-302	84-08-21	11	4	<1	<.1	<1	<1	<3
YP-69-43-606	83-08-16	5	<1	<1	<.1	1	<1	8
	84-08-22	7	<10	<1	--	--	<1	25
YP-69-43-804	84-08-22	8	<10	<10	--	--	1	7
YP-69-44-402	84-08-21	<3	<10	3	--	--	<1	32
YP-69-45-404	83-08-15	3	<1	<1	<.1	1	<1	6
	84-02-07	14	2	1	<.1	<1	<1	15
YP-69-45-405	83-08-19	5	1	<1	<.1	1	<1	<3
	84-02-06	<3	3	<1	<.1	<1	<1	10
YP-69-50-203	83-08-19	3	<1	<1	<.1	<1	<1	5
	84-02-01	4	<1	<1	<.1	<1	<1	10
	84-08-23	6	<10	<1	--	--	<1	34
YP-69-50-501	84-08-23	8	<10	<1	--	--	1	25
YP-69-50-506	83-08-19	6	<1	<1	.4	1	<1	6
	84-08-23	<3	<1	3	<.1	<1	<1	<3
YP-69-50-601	84-02-02	9	<1	<1	<.1	1	<1	11
YP-69-50-603	84-08-22	<3	<10	<1	--	--	<1	11
YP-69-50-609	84-01-31	5	<1	<1	<.1	<1	<1	9
YP-69-50-613	84-08-22	4	<1	3	<.1	1	<1	9
YP-69-51-104	84-02-01	3	<1	<1	<.1	1	<1	23
	84-08-23	3	<1	4	<.1	<1	<1	<3
YP-69-51-106	84-08-22	5	4	<1	<.1	<1	<1	<3
YP-69-51-107	84-08-23	5	<1	3	<.1	<1	<1	12
YP-69-51-114	84-08-23	3	<1	3	<.1	<1	<1	<3
YP-69-51-409	84-08-22	<3	<1	3	<.1	1	<1	<3

Table 8.--Water-quality data for wells and springs in the Edwards aquifer, 1983-84--Continued

UVALDE COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)
YP-69-42-606	84-06-01	1040	525	180	1200	<.1	<.10	<.010	<.1	<.010
YP-69-50-613	84-08-22	1340	--	50	15	<.1	<.10	<.010	<.1	<.010
YP-69-51-104	84-08-23	1410	430	370	500	<.1	<.10	<.010	<.1	<.010
YP-69-51-106	84-08-22	1125	--	15	15	<.1	<.10	<.010	<.1	<.010
YP-69-51-107	84-08-23	1110	310	25	15	<.1	<.10	<.010	<.1	<.010
YP-69-51-114	84-08-23	0945	565	--	500	<.1	<.10	<.010	<.1	<.010
YP-69-51-409	84-08-22	1330	--	20	15	<.1	<.10	<.010	<.1	<.010

LOCAL IDENT-I-FIER	DATE OF SAMPLE	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)
YP-69-42-606	84-06-01	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
YP-69-50-613	84-08-22	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
YP-69-51-104	84-08-23	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
YP-69-51-106	84-08-22	<.010	<.010	<.10	<.010	<.010	<.010	<.01	<.010	<.010
YP-69-51-107	84-08-23	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
YP-69-51-114	84-08-23	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010
YP-69-51-409	84-08-22	<.010	<.010	<.01	<.010	<.010	<.010	<.01	<.010	<.010

LOCAL IDENT-I-FIER	DATE OF SAMPLE	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)
YP-69-42-606	84-06-01	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
YP-69-50-613	84-08-22	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
YP-69-51-104	84-08-23	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
YP-69-51-106	84-08-22	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
YP-69-51-107	84-08-23	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
YP-69-51-114	84-08-23	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01
YP-69-51-409	84-08-22	<.010	<.01	<.01	<.01	<.01	<.01	<.1	<1	<.01

LOCAL IDENT-I-FIER	DATE OF SAMPLE	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)
YP-69-42-606	84-06-01	<.01	<.01	.04	<.01	<.01
YP-69-50-613	84-08-22	<.01	<.01	<.01	<.01	<.01
YP-69-51-104	84-08-23	.03	<.01	<.01	<.01	<.01
YP-69-51-106	84-08-22	<.01	<.01	<.01	<.01	<.01
YP-69-51-107	84-08-23	.03	<.01	<.01	<.01	<.01
YP-69-51-114	84-08-23	.04	<.01	<.01	<.01	<.01
YP-69-51-409	84-08-22	<.01	<.01	<.01	<.01	<.01

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84

BEXAR COUNTY

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	DICHLOROBROMOMETHANE TOTAL (UG/L)	CARBON-TETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)
AY-68-27-303	83-08-02	0915	427	60	15	*	*	*	*	*
AY-68-27-503	83-08-01	1205	435	20	275	*	*	*	*	*
AY-68-27-504	83-08-01	1125	508	20	525	*	*	*	*	*
AY-68-28-202	83-08-12	0840	457	30	95	*	*	*	*	*
AY-68-28-502	83-08-12	0730	506	20	130	*	*	*	*	*
AY-68-28-508	83-08-03	1025	396	30	150	*	*	*	*	*
AY-68-28-607	83-06-21	0930	403	30	70	*	*	*	*	*
AY-68-28-702	83-03-04	0935	450	30	1350	*	*	*	*	*
	83-09-02	1330	450	30	1350	*	*	*	*	*
AY-68-28-806	83-03-08	0916	860	18	2800	*	*	*	*	*
AY-68-28-807	83-03-08	0802	685	18	3500	*	*	*	*	*
AY-68-28-809	83-03-02	0930	750	16	1500	*	*	*	*	*
AY-68-28-902	83-02-16	0910	811	5	2800	*	*	<3.0	*	*
	83-02-16	0915	811	10	2800	*	*	<3.0	*	*
	83-02-16	0935	811	30	2800	*	*	<3.0	*	*
	83-07-19	1325	811	35	2800	*	*	*	*	*
	83-11-04	1445	811	40	2800	*	*	*	*	*
	84-06-14	1335	811	40	2800	*	*	*	*	*
	84-08-16	1115	811	120	2800	*	*	*	*	*
AY-68-28-903	83-02-16	1310	726	5	3500	*	*	<3.0	*	*
	83-02-16	1315	762	10	3500	*	*	<3.0	*	*
	83-02-16	1335	726	30	3500	*	*	<3.0	*	*
	83-02-16	1405	762	60	3500	*	*	<3.0	*	*
	83-02-16	1505	762	120	3500	*	*	<3.0	*	*
	83-06-24	1350	762	60	3500	*	*	*	*	*
	83-11-03	1430	762	60	3400	*	*	*	*	*
	84-06-14	1105	762	45	3500	*	*	*	*	*
	84-08-16	1330	762	--	3500	*	*	*	*	*
	84-08-25	1240	762	70	3400	*	*	*	*	*
AY-68-28-904	83-02-15	0950	640	1440	480	*	*	*	*	*
	83-08-30	1020	640	1440	480	*	*	*	*	*
AY-68-28-905	83-02-15	1036	856	10	1800	*	*	*	4.2	*
	83-09-01	1152	856	60	1800	*	*	*	*	*
AY-68-28-909	83-07-13	1135	867	20	2430	*	*	*	*	*
	83-08-24	0815	867	13	2430	*	*	*	*	*

* - Not detected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	CHLOROFORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRALOCAL CHLOROETHYLENE TOTAL (UG/L)
AY-68-27-303	83-08-02	<3.0	*	<3.0	*	*	*	*	<3.0	*
AY-68-27-503	83-08-01	<3.0	*	<3.0	*	*	*	*	<3.0	*
AY-68-27-504	83-08-01	<3.0	*	<3.0	*	*	*	*	<3.0	*
AY-68-28-202	83-08-12	*	<3.0	<3.0	*	*	*	*	<3.0	*
AY-68-28-502	83-08-12	<3.0	<3.0	<3.0	*	*	*	*	<3.0	*
AY-68-28-508	83-08-03	<3.0	*	<3.0	*	*	*	*	<3.0	*
AY-68-28-607	83-06-21	*	*	*	*	*	*	*	3.2	*
AY-68-28-702	83-03-04	*	*	*	*	*	*	*	*	<3.0
	83-09-02	<3.0	<3.0	*	<3.0	*	*	*	*	<3.0
AY-68-28-806	83-03-08	*	*	*	*	*	*	*	*	<3.0
AY-68-28-807	83-03-08	*	*	*	*	*	*	*	*	*
AY-68-28-809	83-03-02	*	*	*	*	*	*	*	*	*
AY-68-28-902	83-02-16	*	*	*	*	*	*	*	<3.0	3.9
	83-02-16	*	*	*	*	*	*	*	<3.0	4.3
	83-02-16	*	*	*	*	*	*	*	<3.0	3.4
	83-07-19	<3.0	*	<3.0	*	*	*	*	<3.0	<3.0
	83-11-04	*	*	*	*	*	*	*	*	<3.0
	84-06-14	*	*	*	*	*	*	*	*	<3.0
	84-08-16	*	*	*	*	*	*	*	*	<3.0
AY-68-28-903	83-02-16	*	*	*	*	*	*	*	*	3.5
	83-02-16	*	*	*	*	*	*	*	*	3.2
	83-02-16	*	*	*	*	*	*	*	*	<3.0
	83-02-16	*	*	*	*	*	*	*	*	3.5
	83-02-16	*	*	*	*	*	*	*	*	3.8
	83-06-24	*	*	*	*	*	*	*	<3.0	<3.0
	83-11-03	*	*	*	*	*	*	*	*	<3.0
	84-06-14	*	*	*	*	*	*	*	<3.0	3.7
	84-08-16	*	*	*	*	*	*	*	5.9	3.2
	84-08-25	*	*	*	*	*	*	*	4.5	3.2
AY-68-28-904	83-02-15	*	*	*	*	*	*	*	*	<3.0
	83-08-30	<3.0	*	<3.0	<3.0	*	*	*	<3.0	<3.0
AY-68-28-905	83-02-15	*	*	*	*	*	*	*	*	<3.0
	83-09-01	<3.0	<3.0	<3.0	<3.0	*	<3.0	*	<3.0	<3.0
AY-68-28-909	83-07-13	*	*	*	*	*	*	*	*	<3.0
	83-08-24	<3.0	*	<3.0	*	*	*	*	*	<3.0

* - Not detected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	TRICHLOROFLOUROMETHANE TOTAL (UG/L)	1,1-DICHLOROETHANE TOTAL (UG/L)	1,1-DICHLOROETHYLENE TOTAL (UG/L)	1,1,1-TRICHLOROETHANE TOTAL (UG/L)	1,1,2-TRICHLOROETHANE TOTAL (UG/L)	1,1,2,2 TETRACHLOROETHANE TOTAL (UG/L)	1,2-DICHLOROPROPANE TOTAL (UG/L)	1,2-TRANSDICHLOROETHYLENE TOTAL (UG/L)	1,3-DICHLOROPROPENE TOTAL (UG/L)
AY-68-27-303	83-08-02	*	*	*	<3.0	*	*	*	*	*
AY-68-27-503	83-08-01	*	*	*	<3.0	*	*	*	*	*
AY-68-27-504	83-08-01	*	*	*	<3.0	*	*	*	*	*
AY-68-28-202	83-08-12	*	*	*	<3.0	*	*	*	*	*
AY-68-28-502	83-08-12	*	*	*	*	*	*	*	*	*
AY-68-28-508	83-08-03	*	*	*	<3.0	*	*	*	*	*
AY-68-28-607	83-06-21	*	*	*	*	*	*	*	*	*
AY-68-28-702	83-03-04	*	*	*	*	*	*	*	*	*
	83-09-02	*	*	*	<3.0	*	*	*	*	*
AY-68-28-806	83-03-08	*	*	*	*	*	*	*	*	*
AY-68-28-807	83-03-08	*	*	*	*	*	*	*	*	*
AY-68-28-809	83-03-02	*	*	*	*	*	*	*	*	*
AY-68-28-902	83-02-16	*	*	*	*	*	*	*	*	*
	83-02-16	*	*	*	*	*	*	*	*	*
	83-02-16	*	*	*	*	*	*	*	*	*
	83-07-19	<3.0	*	*	<3.0	*	*	*	<3.0	*
	83-11-04	<3.0	*	*	*	*	*	*	*	*
	84-06-14	<3.0	*	*	*	*	*	*	<3.0	*
	84-08-16	<3.0	*	*	*	*	*	*	<3.0	*
AY-68-28-903	83-02-16	*	*	*	*	*	*	*	*	*
	83-02-16	*	*	*	*	*	*	*	*	*
	83-02-16	*	*	*	*	*	*	*	*	*
	83-02-16	*	*	*	*	*	*	*	*	*
	83-02-16	*	*	*	*	*	*	*	*	*
	83-06-24	*	*	*	*	*	*	*	<3.0	*
	83-11-03	*	*	*	*	*	*	*	*	*
	84-06-14	<3.0	*	*	*	*	*	*	<3.0	*
	84-08-16	<3.0	*	*	*	*	*	*	<3.0	*
	84-08-25	<3.0	*	*	*	*	*	*	<3.0	*
AY-68-28-904	83-02-15	*	*	*	*	*	*	*	*	*
	83-08-30	*	*	*	<3.0	*	*	*	*	*
AY-68-28-905	83-02-15	*	*	*	*	*	*	*	*	*
	83-09-01	*	*	*	<3.0	*	*	*	*	*
AY-68-28-909	83-07-13	*	*	*	<3.0	*	*	*	*	*
	83-08-24	*	*	*	<3.0	*	*	*	*	*

* - Not detected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	2-CHLOROETHYLVINYLETHER TOTAL (UG/L)	DICHLORODIFLUOROMETHANE TOTAL (UG/L)	VINYL CHLORIDE TOTAL (UG/L)	TRICHLOROETHYLENE TOTAL (UG/L)
AY-68-27-303	83-08-02	*	*	*	*
AY-68-27-503	83-08-01	*	*	*	*
AY-68-27-504	83-08-01	*	*	*	*
AY-68-28-202	83-08-12	*	*	*	*
AY-68-28-502	83-08-12	*	*	*	*
AY-68-28-508	83-08-03	*	*	*	*
AY-68-28-607	83-06-21	*	*	*	*
AY-68-28-702	83-03-04	*	*	*	*
	83-09-02	*	*	*	<3.0
AY-68-28-806	83-03-08	*	*	*	*
AY-68-28-807	83-03-08	*	*	*	*
AY-68-28-809	83-03-02	*	*	*	*
AY-68-28-902	83-02-16	*	*	*	<3.0
	83-02-16	*	*	*	<3.0
	83-02-16	*	*	*	<3.0
	83-07-19	*	*	*	<3.0
	83-11-04	*	*	*	*
	84-06-14	*	*	*	<3.0
	84-08-16	*	*	*	<3.0
AY-68-28-903	83-02-16	*	*	*	<3.0
	83-02-16	*	*	*	<3.0
	83-02-16	*	*	*	<3.0
	83-02-16	*	*	*	<3.0
	83-02-16	*	*	*	<3.0
	83-06-24	*	*	*	*
	83-11-03	*	*	*	*
	84-06-14	*	*	*	<3.0
	84-08-16	*	*	*	<3.0
	84-08-25	*	*	*	<3.0
AY-68-28-904	83-02-15	*	*	*	*
	83-08-30	*	*	*	*
AY-68-28-905	83-02-15	*	*	*	*
	83-09-01	*	*	*	<3.0
AY-68-28-909	83-07-13	*	*	*	*
	83-08-24	*	*	*	*

* - Not detected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	DICHLOROBROMOMETHANE TOTAL (UG/L)	CARBON TETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)
AY-68-28-913	83-03-09	1017	784	17	1800	*	*	*	*	*
AY-68-28-917	83-04-05	0950	392	40	10	*	*	*	*	*
AY-68-28-918	83-04-05	1115	400	30	15	*	*	*	*	*
	83-06-29	0930	400	30	10	*	*	*	*	*
	83-11-03	0935	400	35	25	*	*	*	*	*
	84-06-14	1437	400	160	15	*	*	*	*	*
	84-08-16	1500	400	120	--	*	*	*	*	*
AY-68-28-919	83-02-02	1006	550	5	3300	*	*	*	*	*
	83-02-02	1011	550	10	3300	*	*	*	*	*
	83-02-02	1034	550	34	3300	*	*	*	*	*
	83-06-29	1445	550	3	3300	*	*	*	*	*
	84-08-25	1110	550	33	3300	*	*	*	*	*
AY-68-28-920	83-10-18	1130	360	--	--	*	*	<3.0	*	*
	83-11-04	1000	360	--	--	*	*	*	*	*
	84-06-13	1520	360	--	--	*	*	*	*	*
AY-68-29-109	84-08-15	1100	460	10	400	*	*	*	*	*
AY-68-29-208	83-03-28	1100	266	30	10	*	*	*	*	*
AY-68-29-401	84-08-15	1500	517	90	600	*	*	*	*	*
AY-68-29-405	83-06-20	1015	395	30	100	*	*	*	*	*
AY-68-29-412	83-03-16	1100	364	45	15	*	*	*	*	*
AY-68-29-510	83-06-22	1030	500	30	500	*	*	*	*	*
AY-68-29-609	84-07-30	1230	823	--	200	*	*	*	*	*
AY-68-29-702	83-07-21	1000	872	20	3000	*	*	*	*	*
AY-68-29-804	84-08-01	1330	761	--	1000	*	*	*	*	*
AY-68-29-810	84-08-01	1100	500	60	20	*	*	*	*	*
AY-68-29-915	84-07-30	1430	824	--	6000	*	*	*	*	*
AY-68-30-511	84-08-03	1430	544	--	1070	<3.0	*	*	*	*
AY-68-35-102	83-07-13	0850	796	20	1880	*	*	*	*	*
	83-08-24	1145	796	15	1880	<3.0	*	*	<3.0	*
AY-68-35-913	84-08-14	1130	1040	90	--	*	*	*	*	*
AY-68-36-102	83-07-13	1007	786	20	9000	*	*	*	*	*
AY-68-36-802	84-08-07	0952	1470	--	--	*	*	<3.0	*	*
AY-68-37-101	83-07-19	1045	1000	45	7700	*	*	*	*	*
	83-08-24	1030	1000	15	7700	*	*	*	*	*
AY-68-37-404	84-08-02	1100	1320	1440	10000	*	*	*	*	*
AY-68-37-506	84-08-01	1430	1400	--	5000	*	*	*	*	*
AY-68-37-705	83-08-31	1030	1790	1440	3000	*	*	*	*	*
AY-68-50-304	84-08-09	1100	2160	--	500	*	*	*	*	*

* - Not detected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	CHLORO-FORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)	METHYL-ENE CHLO-RIDE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)
AY-68-28-913	83-03-09	*	*	*	*	*	*	*	*	<3.0
AY-68-28-917	83-04-05	*	*	*	*	*	*	*	*	<3.0
AY-68-28-918	83-04-05	*	*	*	*	*	*	*	*	9.6
	83-06-29	*	*	<3.0	*	*	*	*	<3.0	4.8
	83-11-03	*	*	*	*	*	*	*	*	<3.0
	84-06-14	<3.0	*	<3.0	*	*	*	*	<3.0	<3.0
	84-08-16	*	*	*	*	*	*	*	*	<3.0
AY-68-28-919	83-02-02	*	*	*	*	*	*	*	*	<3.0
	83-02-02	*	*	*	*	*	*	*	*	<3.0
	83-02-02	*	*	*	*	*	*	*	*	<3.0
	83-06-29	*	*	<3.0	*	*	*	*	6.3	<3.0
	84-08-25	*	*	*	*	*	*	*	4.3	*
AY-68-28-920	83-10-18	<3.0	<3.0	*	*	*	*	*	*	7.5
	83-11-04	*	*	*	*	*	*	*	*	5.3
	84-06-13	*	*	*	*	*	*	*	*	4.6
AY-68-29-109	84-08-15	*	*	*	*	*	*	*	*	*
AY-68-29-208	83-03-28	*	*	*	*	*	*	*	*	*
AY-68-29-401	84-08-15	*	*	*	*	*	*	*	*	<3.0
AY-68-29-405	83-06-20	*	*	*	*	*	*	*	<3.0	*
AY-68-29-412	83-03-16	*	*	*	*	*	*	*	<3.0	*
AY-68-29-510	83-06-22	*	*	*	*	*	*	*	13.0	*
AY-68-29-609	84-07-30	*	*	*	*	*	*	*	*	*
AY-68-29-702	83-07-21	<3.0	<3.0	<3.0	*	*	*	*	<3.0	<3.0
AY-68-29-804	84-08-01	*	*	*	*	*	*	*	*	*
AY-68-29-810	84-08-01	*	*	*	*	*	*	*	*	<3.0
AY-68-29-915	84-07-30	*	<3.0	*	*	*	<3.0	*	*	*
AY-68-30-511	84-08-03	*	*	*	*	*	*	*	*	<3.0
AY-68-35-102	83-07-13	*	*	*	*	*	*	*	*	*
	83-08-24	<3.0	*	*	*	*	*	*	<3.0	<3.0
AY-68-35-913	84-08-14	*	*	*	*	*	*	*	*	*
AY-68-36-102	83-07-13	<3.0	*	<3.0	*	*	*	*	<3.0	<3.0
AY-68-36-802	84-08-07	*	*	*	*	*	*	*	*	<3.0
AY-68-37-101	83-07-19	3.2	<3.0	<3.0	*	*	*	*	*	*
	83-08-24	*	*	<3.0	*	*	*	*	*	<3.0
AY-68-37-404	84-08-02	*	*	*	*	*	*	*	*	*
AY-68-37-506	84-08-01	*	*	*	*	*	*	*	*	*
AY-68-37-705	83-08-31	<3.0	<3.0	<3.0	<3.0	*	*	*	<3.0	<3.0
AY-68-50-304	84-08-09	*	*	*	*	*	*	*	*	*

* - Not detected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	TRICHLOROFLOUROMETHANE TOTAL (UG/L)	1,1-DICHLOROETHANE TOTAL (UG/L)	1,1-DICHLOROETHYLENE TOTAL (UG/L)	1,1,1-TRICHLOROETHANE TOTAL (UG/L)	1,1,2-TRICHLOROETHANE TOTAL (UG/L)	1,1,2,2 TETRACHLOROETHANE TOTAL (UG/L)	1,2-DICHLOROPROPANE TOTAL (UG/L)	1,2-TRANSDICHLOROETHYLENE TOTAL (UG/L)	1,3-DICHLOROPROPENE TOTAL (UG/L)
AY-68-28-913	83-03-09	*	*	*	*	*	*	*	*	*
AY-68-28-917	83-04-05	*	*	*	*	*	*	*	*	*
AY-68-28-918	83-04-05	5.1	*	*	*	*	*	*	7.9	*
	83-06-29	<3.0	<3.0	*	*	*	*	*	3.4	*
	83-11-03	<3.0	*	*	*	*	*	*	<3.0	*
	84-06-14	<3.0	*	*	*	*	*	*	<3.0	*
	84-08-16	<3.0	<3.0	*	*	*	*	*	<3.0	*
AY-68-28-919	83-02-02	*	*	*	*	*	*	*	*	*
	83-02-02	*	*	*	*	*	*	*	*	*
	83-02-02	*	*	*	*	*	*	*	*	*
	83-06-29	*	*	*	*	*	*	*	*	*
	84-08-25	*	*	*	*	*	*	*	*	*
AY-68-28-920	83-10-18	4.6	*	*	<3.0	*	*	<3.0	<3.0	*
	83-11-04	<3.0	*	*	*	*	*	*	<3.0	*
	84-06-13	<3.0	<3.0	*	*	*	*	*	<3.0	*
AY-68-29-109	84-08-15	*	*	*	*	*	*	*	*	*
AY-68-29-208	83-03-28	*	*	*	*	*	*	*	*	*
AY-68-29-401	84-06-15	*	*	*	*	*	*	*	*	*
AY-68-29-405	83-06-20	*	*	*	*	*	*	*	*	*
AY-68-29-412	83-03-16	*	*	*	*	*	*	*	*	*
AY-68-29-510	83-06-22	*	*	*	*	*	*	*	*	*
AY-68-29-609	84-07-30	<3.0	*	*	*	*	*	*	*	*
AY-68-29-702	83-07-21	*	*	*	*	*	*	*	*	*
AY-68-29-804	84-08-01	*	*	*	*	*	*	*	*	*
AY-68-29-810	84-08-01	*	*	*	*	<3.0	*	*	*	*
AY-68-29-915	84-07-30	*	*	*	*	*	*	*	<3.0	*
AY-68-30-511	84-08-03	*	*	*	*	*	*	*	*	*
AY-68-35-102	83-07-13	*	*	*	<3.0	*	*	*	*	*
	83-08-24	*	<3.0	*	3.6	<3.0	*	*	*	*
AY-68-35-913	84-08-14	*	*	*	*	*	*	*	*	*
AY-68-36-102	83-07-13	*	*	*	*	*	*	*	*	*
AY-68-36-802	84-08-07	*	*	*	*	*	*	*	*	*
AY-68-37-101	83-07-19	*	*	*	<3.0	*	*	*	*	*
	83-08-24	*	*	*	<3.0	*	*	*	*	*
AY-68-37-404	84-08-02	*	*	*	*	*	*	*	*	*
AY-68-37-506	84-08-01	*	*	*	<3.0	*	*	*	*	*
AY-68-37-705	83-08-31	*	*	*	*	*	*	*	*	*
AY-68-50-304	84-08-09	*	*	*	*	*	*	*	*	*

* - Not detected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

BEXAR COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)
AY-68-28-913	83-03-09	*	*	*	*
AY-68-28-917	83-04-05	*	*	*	*
AY-68-28-918	83-04-05	*	*	*	<3.0
	83-06-29	*	*	*	<3.0
	83-11-03	*	*	*	*
	84-06-14	*	*	*	<3.0
	84-08-16	*	*	*	<3.0
AY-68-28-919	83-02-02	*	*	*	*
	83-02-02	*	*	*	*
	83-02-02	*	*	*	*
	83-06-29	*	*	*	*
	84-08-25	*	*	*	*
AY-68-28-920	83-10-18	*	*	*	<3.0
	83-11-04	*	*	*	*
	84-06-13	*	*	*	<3.0
AY-68-29-109	84-08-15	*	*	*	*
AY-68-29-208	83-03-28	*	*	*	*
AY-68-29-401	84-08-15	*	*	*	<3.0
AY-68-29-405	83-06-20	*	*	*	*
AY-68-29-412	83-03-16	*	*	*	*
AY-68-29-510	83-06-22	*	*	*	*
AY-68-29-609	84-07-30	*	*	*	*
AY-68-29-702	83-07-21	*	*	*	*
AY-68-29-804	84-08-01	*	*	*	<3.0
AY-68-29-810	84-08-01	*	*	*	*
AY-68-29-915	84-07-30	*	*	*	<3.0
AY-68-30-511	84-08-03	*	*	*	*
AY-68-35-102	83-07-13	*	*	*	*
	83-08-24	*	*	*	*
AY-68-35-913	84-08-14	*	*	*	<3.0
AY-68-36-102	83-07-13	*	*	*	*
AY-68-36-802	84-08-07	*	*	*	<3.0
AY-68-37-101	83-07-19	*	*	*	*
	83-08-24	*	*	*	*
AY-68-37-404	84-08-02	*	*	*	*
AY-68-37-506	84-08-01	*	*	*	*
AY-68-37-705	83-08-31	*	*	*	<3.0
AY-68-50-304	84-08-09	*	*	*	*

* - Not detected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

COMAL COUNTY

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	DICHLOROBROMOMETHANE TOTAL (UG/L)	CARBON TETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)
DX-68-15-901	83-08-03	0815	--	--	--	*	*	*	*	*
DX-68-22-901	84-08-17	1344	255	20	1200	*	*	*	*	*
DX-68-23-301	83-07-21	0725	--	--	--	*	*	*	*	*
DX-68-23-303	84-08-20	1420	1040	20	1500	*	*	*	*	*
DX-68-23-305	84-08-20	1100	102	--	1000	*	*	*	*	*
DX-68-23-316	83-08-02	1125	350	60	10	*	*	*	*	*
DX-68-23-602	83-07-27	1105	790	20	275	*	*	*	*	*
DX-68-24-102	84-08-03	0930	211	--	4100	*	*	*	*	*

LOCAL IDENTIFIER	DATE OF SAMPLE	CHLOROFORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)
DX-68-15-901	83-08-03	*	*	<3.0	*	*	*	*	<3.0	*
DX-68-22-901	84-08-17	*	*	*	*	*	*	*	*	*
DX-68-23-301	83-07-21	<3.0	<3.0	*	*	*	*	*	<3.0	*
DX-68-23-303	84-08-20	*	*	*	*	*	*	*	*	*
DX-68-23-305	84-08-20	*	*	*	*	*	*	*	*	<3.0
DX-68-23-316	83-08-02	<3.0	*	<3.0	*	*	*	*	<3.0	*
DX-68-23-602	83-07-27	*	*	<3.0	*	*	*	*	10	*
DX-68-24-102	84-08-03	*	*	*	*	*	*	*	*	*

* - Not detected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

COMAL COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TRI-CHLORO-FLOURO-METHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI CHLORO-ETHYL-ENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPENE TOTAL (UG/L)
DX-68-15-901	83-08-03	*	*	*	<3.0	*	*	*	*	*
DX-68-22-901	84-08-17	*	*	*	*	*	*	*	*	*
DX-68-23-301	83-07-21	*	*	*	*	*	*	*	*	*
DX-68-23-303	84-08-20	*	*	*	*	*	*	*	*	*
DX-68-23-305	84-08-20	*	*	*	*	*	*	*	*	*
DX-68-23-316	83-08-02	*	*	*	*	*	*	*	*	*
DX-68-23-602	83-07-27	*	*	*	*	*	*	*	*	*
DX-68-24-102	84-08-03	*	*	*	*	*	*	*	*	*

LOCAL IDENT-I-FIER	DATE OF SAMPLE	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)
DX-68-15-901	83-08-03	*	*	*	*
DX-68-22-901	84-08-17	*	*	*	*
DX-68-23-301	83-07-21	*	*	*	*
DX-68-23-303	84-08-20	*	*	*	<3.0
DX-68-23-305	84-08-20	*	*	*	<3.0
DX-68-23-316	83-08-02	*	*	*	*
DX-68-23-602	83-07-27	*	*	*	*
DX-68-24-102	84-08-03	*	*	*	*

* - Not detected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

HAYS COUNTY

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	DICHLOROBROMOMETHANE TOTAL (UG/L)	CARBON TETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)
LR-67-01-302	84-08-03	1245	--	--	--	*	*	*	*	*
LR-67-01-801	83-07-30	0855	--	--	--	*	*	*	*	*
	84-09-04	1100	--	--	--	*	*	*	*	*
LR-67-01-802	84-02-21	1155	200	40	1200	*	*	*	*	*
	84-08-30	--	200	--	1200	*	*	*	*	*
LR-67-01-806	83-07-25	1250	128	20	1900	*	*	*	*	*
	83-09-02	1015	128	2700	--	*	<3.0	<3.0	*	*
	84-02-21	1410	128	30	1900	*	*	*	*	*
	84-08-30	0955	128	--	--	*	*	*	*	*
LR-67-09-105	84-08-30	--	330	--	--	*	*	*	*	*

LOCAL IDENTIFIER	DATE OF SAMPLE	CHLOROFORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)
LR-67-01-302	84-08-03	*	*	*	*	*	*	*	*	*
LR-67-01-801	83-07-30	*	<3.0	<3.0	*	*	*	*	<3.0	*
	84-09-04	*	*	*	*	*	*	*	*	*
LR-67-01-802	84-02-21	*	*	*	*	*	*	*	*	*
	84-08-30	*	*	*	*	*	*	*	*	*
LR-67-01-806	83-07-25	<3.0	*	*	*	*	*	*	10	<3.0
	83-09-02	<3.0	<3.0	*	<3.0	*	<3.0	*	*	<3.0
	84-02-21	*	*	*	*	*	*	*	*	<3.0
	84-08-30	*	*	*	*	*	*	*	*	*
LR-67-09-105	84-08-30	*	*	*	*	*	*	*	*	*

* - Not dectected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

HAYS COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TRI-CHLORO-FLOURO-METHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI CHLORO-ETHYL-ENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPENE TOTAL (UG/L)
LR-67-01-302	84-08-03	*	*	*	*	*	*	*	*	*
LR-67-01-801	83-07-30	*	*	*	*	*	*	*	*	*
	84-09-04	*	*	*	*	*	*	*	*	*
LR-67-01-802	84-02-21	*	*	*	*	*	*	*	*	*
	84-08-30	*	*	*	*	*	*	*	*	*
LR-67-01-806	83-07-25	*	*	*	<3.0	*	*	*	*	*
	83-09-02	*	*	*	<3.0	*	*	<3.0	<3.0	*
	84-02-21	*	*	*	*	*	*	*	*	*
	84-08-30	*	*	*	*	*	*	*	*	*
LR-67-09-105	84-08-30	*	*	*	*	*	*	*	*	*

LOCAL IDENT-I-FIER	DATE OF SAMPLE	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)
LR-67-01-302	84-08-03	*	*	*	*
LR-67-01-801	83-07-30	*	*	*	*
	84-09-04	*	*	*	*
LR-67-01-802	84-02-21	*	*	*	*
	84-08-30	*	*	*	*
LR-67-01-806	83-07-25	*	*	*	*
	83-09-02	*	*	*	<3.0
	84-02-21	*	*	*	<3.0
	84-08-30	*	*	*	*
LR-67-09-105	84-08-30	*	*	*	*

* - Not dectected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

MEDINA COUNTY

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)	CARBON-TETRA-CHLORIDE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)
TD-68-41-303	84-08-09	1130	717	90	400	*	*	*	*	*
TD-68-42-806	84-08-09	1400	--	--	--	*	*	*	*	*
TD-68-49-813	84-07-13	1130	3190	--	70	*	*	*	*	*
TD-69-46-601	84-08-21	1445	1280	120	350	*	*	*	*	*
TD-69-47-301	84-08-21	1300	1510	1440	1000	*	*	*	*	*

LOCAL IDENT-I-FIER	DATE OF SAMPLE	CHLORO-FORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRA-CHLORO-ETHYLENE TOTAL (UG/L)
TD-68-41-303	84-08-09	*	*	*	*	*	*	*	*	*
TD-68-42-806	84-08-09	*	*	*	*	*	*	*	*	*
TD-68-49-813	84-07-13	*	*	*	*	*	*	*	*	*
TD-69-46-601	84-08-21	*	*	*	*	*	*	*	*	*
TD-69-47-301	84-08-21	*	*	*	*	*	*	*	*	*

* - Not dectected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

MEDINA COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TRI-CHLORO-FLOURO-METHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI CHLORO-ETHYL-ENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPENE TOTAL (UG/L)
TD-68-41-303	84-08-09	*	*	*	*	*	*	*	*	*
TD-68-42-806	84-08-09	*	*	*	*	*	*	*	*	*
TD-68-49-813	84-07-13	*	*	*	*	*	*	*	*	*
TD-69-46-601	84-08-21	*	*	*	*	*	*	*	*	*
TD-69-47-301	84-08-21	<3.0	*	*	*	*	*	*	*	*

LOCAL IDENT-I-FIER	DATE OF SAMPLE	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)
TD-68-41-303	84-08-09	*	*	*	*
TD-68-42-806	84-08-09	*	*	*	*
TD-68-49-813	84-07-13	*	*	*	*
TD-69-46-601	84-08-21	*	*	*	*
TD-69-47-301	84-08-21	*	*	*	*

* - Not dectected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

UVALDE COUNTY

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)	DICHLOROBROMOMETHANE TOTAL (UG/L)	CARBON TETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)
YP-69-35-801	84-24-08	0930	600	1440	700	*	*	*	*	*
YP-69-43-606	82-22-08	1300	698	240	250	*	<3.0	*	*	*
YP-69-43-804	84-22-08	0845	967	2880	800	*	*	*	*	*
YP-69-44-402	84-08-21	1700	743	7200	1000	*	*	<3.0	*	*
YP-69-45-404	84-02-07	1300	1490	35	430	*	*	*	*	*
YP-69-45-405	83-08-19	1250	1210	25	520	*	<3.0	*	*	*
	84-02-06	1414	1210	14	520	*	*	*	*	*
YP-69-50-203	83-08-19	1525	525	15	1400	<3.0	*	*	4.0	<3.0
	84-02-01	1132	525	15	1400	*	<3.0	*	*	*
YP-69-50-207	84-02-01	1210	265	13	1100	*	*	*	*	*
YP-69-50-319	84-04-05	1505	--	25	15	*	*	*	*	*
YP-69-50-501	84-08-23	1300	600	>1440	800	*	*	*	*	*
YP-69-50-506	84-08-23	1505	525	425	480	*	*	*	*	*
YP-69-50-601	84-02-02	1353	562	31	900	*	*	*	*	*
YP-69-50-603	84-08-22	1700	355	4320	500	*	*	*	*	*
YP-69-50-609	84-01-31	1210	650	30	600	*	*	*	*	*
YP-69-50-613	84-08-22	1340	--	50	15	*	*	*	*	*
YP-69-51-104	84-02-01	1251	430	17	500	*	*	*	*	*
	84-04-05	1405	430	1440	500	*	*	*	*	*
	84-08-23	1410	430	370	500	*	*	*	*	*
YP-69-51-106	84-08-22	1125	--	15	15	*	*	*	*	*
YP-69-51-107	84-08-23	1110	310	25	15	*	*	*	*	*
YP-69-51-114	84-04-05	1120	525	20	500	*	*	*	*	*
	84-08-23	0945	525	--	500	*	*	*	*	*
YP-69-51-409	84-08-22	1330	--	20	15	*	*	*	*	*

* - Not dectected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

UVALDE COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	CHLOROFORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)
YP-69-35-801	84-24-08	*	*	*	*	*	*	*	*	*
YP-69-43-606	82-22-08	*	*	*	*	*	*	*	*	<3.0
YP-69-43-804	84-22-08	*	*	*	*	*	*	*	*	*
YP-69-44-402	84-08-21	*	*	*	*	*	*	*	*	*
YP-69-45-404	84-02-07	*	*	*	*	*	*	*	*	*
YP-69-45-405	83-08-19	*	*	*	*	*	*	*	*	<3.0
	84-02-06	<3.0	*	*	*	*	*	*	*	*
YP-69-50-203	83-08-19	<3.0	*	*	*	*	*	*	*	<3.0
	84-02-01	<3.0	<3.0	*	*	*	*	*	*	*
YP-69-50-207	84-02-01	*	*	*	*	*	*	*	*	*
YP-69-50-319	84-04-05	*	*	*	*	*	*	*	*	*
YP-69-50-501	84-08-23	*	*	*	*	*	*	*	*	*
YP-69-50-506	84-08-23	*	*	*	*	*	*	*	*	*
YP-69-50-601	84-02-02	*	<3.0	*	*	*	*	*	*	*
YP-69-50-603	84-08-22	*	*	*	*	*	*	*	*	<3.0
YP-69-50-609	84-01-31	*	*	*	*	*	*	*	*	*
YP-69-50-613	84-08-22	*	*	*	*	*	*	*	*	<3.0
YP-69-51-104	84-02-01	*	<3.0	<3.0	*	*	*	*	<3.0	6.4
	84-04-05	*	*	*	*	*	*	*	*	9.1
	84-08-23	*	*	*	*	*	*	*	*	<3.0
YP-69-51-106	84-08-22	*	*	*	*	*	*	*	*	5.3
YP-69-51-107	84-08-23	*	*	*	*	*	*	*	*	10
YP-69-51-114	84-04-05	*	*	*	*	*	*	*	*	14
	84-08-23	*	*	*	*	*	*	*	*	9.4
YP-69-51-409	84-08-22	*	*	*	*	*	*	*	*	<3.0

* - Not dectected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

UVALDE COUNTY--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	TRICHLOROFLOUROMETHANE TOTAL (UG/L)	1,1-DICHLOROETHANE TOTAL (UG/L)	1,1-DICHLOROETHYLENE TOTAL (UG/L)	1,1,1-TRICHLOROETHANE TOTAL (UG/L)	1,1,2-TRICHLOROETHANE TOTAL (UG/L)	1,1,2,2 TETRACHLOROETHANE TOTAL (UG/L)	1,2-DICHLOROPROPANE TOTAL (UG/L)	1,2-TRANSDICHLOROETHYLENE TOTAL (UG/L)	1,3-DICHLOROPROPENE TOTAL (UG/L)
YP-69-35-801	84-24-08	*	*	*	*	*	*	*	*	*
YP-69-43-606	82-22-08	<3.0	*	*	*	*	*	*	*	*
YP-69-43-804	84-22-08	<3.0	*	*	*	*	*	*	*	*
YP-69-44-402	84-08-21	<3.0	*	*	*	*	*	*	*	*
YP-69-45-404	84-02-07	*	*	*	*	*	*	*	*	*
YP-69-45-405	83-08-19	*	*	*	4.7	*	*	<3.0	*	*
	84-02-06	*	*	*	*	*	*	*	*	*
YP-69-50-203	83-08-19	*	*	*	3.9	*	*	*	*	*
	84-02-01	*	*	*	*	*	*	*	*	*
YP-69-50-207	84-02-01	*	*	*	*	*	*	*	*	*
YP-69-50-319	84-04-05	*	*	*	*	*	*	*	*	*
YP-69-50-501	84-08-23	*	*	*	*	*	*	*	*	*
YP-69-50-506	84-08-23	*	*	*	*	*	*	*	*	*
YP-69-50-601	84-02-02	*	*	*	*	*	*	*	*	*
YP-69-50-603	84-08-22	*	*	*	*	*	*	*	*	*
YP-69-50-609	84-01-31	*	*	*	<3.0	*	*	*	*	*
YP-69-50-613	84-08-22	*	*	*	*	*	*	*	*	*
YP-69-51-104	84-02-01	*	*	*	<3.0	*	*	*	*	*
	84-04-05	*	*	*	*	*	*	*	*	*
	84-08-23	*	*	*	*	*	*	*	*	*
YP-69-51-106	84-08-22	*	*	*	*	*	*	*	*	*
YP-69-51-107	84-08-23	*	*	*	*	*	*	*	*	*
YP-69-51-114	84-04-05	*	*	*	*	*	*	*	*	*
	84-08-23	*	*	*	*	*	*	*	*	*
YP-69-51-409	84-08-22	*	*	*	*	*	*	*	*	*

* - Not detected

Table 9.--Analyses for volatile organic compounds for wells and springs in the Edwards aquifer, 1983-84--Continued

UVALDE COUNTY--Continued

LOCAL IDENT-I-FIER	DATE OF SAMPLE	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)
YP-69-35-801	84-24-08	*	*	*	*
YP-69-43-606	82-22-08	*	*	*	*
YP-69-43-804	84-22-08	*	*	*	<3.0
YP-69-44-402	84-08-21	*	*	*	<3.0
YP-69-45-404	84-02-07	*	*	*	*
YP-69-45-405	83-08-19	*	*	*	<3.0
	84-02-06	*	*	*	*
YP-69-50-203	83-08-19	*	*	*	*
	84-02-01	*	*	*	*
YP-69-50-207	84-02-01	*	*	*	*
YP-69-50-319	84-04-05	*	*	*	*
YP-69-50-501	84-08-23	*	*	*	*
YP-69-50-506	84-08-23	*	*	*	*
YP-69-50-601	84-02-02	*	*	*	*
YP-69-50-603	84-08-22	*	*	*	*
YP-69-50-609	84-01-31	*	*	*	*
YP-69-50-613	84-08-22	*	*	*	*
YP-69-51-104	84-02-01	*	*	*	*
	84-04-05	*	*	*	*
	84-08-23	*	*	*	*
YP-69-51-106	84-08-22	*	*	*	*
YP-69-51-107	84-08-23	*	*	*	*
YP-69-51-114	84-04-05	*	*	*	*
	84-08-23	*	*	*	*
YP-69-51-409	84-08-22	*	*	*	*

* - Not detected

Table 10.--Analyses for volatile organic compounds from selected wells in the fill material of the West Avenue landfill, 1983

BEXAR COUNTY

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)	CARBON-TETRA-CHLO-RIDE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	BROM-OFORM TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLORO-FORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)
CITY 54	83-05-17	1509	55	*	*	*	*	*	*	5.1
CITY 57	83-05-17	1119	50	*	*	*	*	*	*	210

LOCAL IDENTIFIER	DATE OF SAMPLE	BENZENE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)	METHYL-ENE CHLO-RIDE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)	TRI-CHLORO-FLOURO-METHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)
CITY 54	83-05-17	13	26	*	8.2	*	4.2	*	*	*
CITY 57	83-05-17	3.8	<3.0	*	9.9	*	4.4	*	*	*

LOCAL IDENTIFIER	DATE OF SAMPLE	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI CHLORO-ETHYL-ENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPENE TOTAL (UG/L)
CITY 54	83-05-17	*	<3.0	*	*	*	<3.0	*
CITY 57	83-05-17	*	*	*	*	<3.0	6	*

LOCAL IDENTIFIER	DATE OF SAMPLE	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)
CITY 54	83-05-17	*	*	*	<3.0
CITY 57	83-05-17	*	*	*	2.3

* - Not Detected

Table 11.--Analyses for base/neutral-acid extractable organic compounds from selected wells in the fill material in the West Avenue landfill, 1983

Well number	Date	Extract	Compound name	Concentration (µg/L)
54	May 17, 1983	Base/neutral	Benzene, 1,2,3-trimethyl-	7.39
			Camphor	103
			Phenol	3.55
			Benzene, 1,4-dichloro-	6.56
			Fenchone	34.3
			Phosphoric acid, triethyl ester	5.92
			Naphthalene	42.7
			Benzenesulfonamide, N-ethyl-4-methyl-	32.5
			Dipropyleneglycol methyl ether	5.66
			Phenol, 4-methyl-	50.1
			Benzene, chloro	3.70
			Benzene, 1,4-dimethyl-	4.21
			p-Menthan-8-ol	16.7
			Benzenemethanol, .alpha.,.alpha.-dimethyl-	14.7
			Benzene, 1,2,4-trimethyl-	2.18
			1,8-Cineloe	3.81
			2(3H)-Benzothiazolone	17.4
			Bicyclo[3.1.1.]heptan-2-one, 3,6,6-trimethyl-	15.5
			Phosphoric acid, tributyl ester	5.85
			Endo-2-hydroxy-5-ketobornane	10.8
			Benzene, 1,2,3,4-tetramethyl-	1.96
			Hydrocarbon, unidentified	3.70
			Hydrocarbon, unidentified	4.69
			Hydrocarbon, unidentified	5.98
			Hydrocarbon, unidentified	7.76
			Hydrocarbon, unidentified	11.3
			Hydrocarbon, unidentified	16.3
			Hydrocarbon, unidentified	20.8
			Hydrocarbon, unidentified	25.8
			Hydrocarbon, unidentified	17.2
			Hydrocarbon, unidentified	11.7
			Hydrocarbon, unidentified	7.50
			Hydrocarbon, unidentified	2.13
		Acid	Cyclohexanecarboxylic acid	9.57
			Benzenepropanoic acid	53.6
			Camphor	6.06
			Benzoic acid	3.46
			2(3H)-Benzothiazolone	20.7
			Benzoic acid, 3,5-dimethyl-	25.6
			Phenol, 4-methyl-	7.84
			Benzeneacetic acid	43.2
			Phenol	5.55
			1,2-Benzenedicarboxylic acid	8.37
			Benzamide, N-(1,1-dimethylethyl)-3-methyl-	11.4
			Butonic acid, 3-methyl-	2.52
			Hexanoic acid, 2-methyl-	5.54
			Benzoic acid, 4-methyl-	4.67
			Hydrocarbon, unidentified	5.11
			Hydrocarbon, unidentified	5.12
			Hydrocarbon, unidentified	5.85
			Hydrocarbon, unidentified	7.18
			Hydrocarbon, unidentified	10.9
			Hydrocarbon, unidentified	13.7
			Hydrocarbon, unidentified	14.7
			Hydrocarbon, unidentified	12.3
			Hydrocarbon, unidentified	11.9
			Hydrocarbon, unidentified	8.57
			Hydrocarbon, unidentified	4.41

Table 11.--Analyses for base/neutral acid extractable organic compounds from selected wells in the fill material in the West Avenue landfill, 1983--Continued

Well number	Date	Extract	Compound name	Concentration (µg/L)
57	May 17, 1983	Base/neutral	Phenol, 3,5-dimethyl-	61.3
			Camphor	104
			3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)-	22.6
			1,2-Benzenedicarboxylic acid, diethyl ester	21.2
			Phenol, 2,3,6-trimethyl-	4.12
			Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-	63.2
			Fenchone	28.9
			Phenol, 3-methyl-	392
			Naphthalene	23.8
			Phenol, 3,5-dimethyl-	38.4
			2-Propanol, 1-[2-methoxy-1-methylethoxy) -1-methylethoxy]-	68.7
			[1,1'-Biphenyl]-2-ol	6.38
			Ethanol, 2-phenoxy-	4.47
			Phenol	171
			.alpha.-Terpineol	117
			2-Octanone	7.48
			Benzenesulfonamide, N-ethyl-4-methyl-	14.8
			Phenol, 3-ethyl-5-methyl-	23.3
			2-Cyclohexen-1-one, 3,4,5-trimethyl	1.14
			Ketone, 2,2-dimethylcyclohexyl methyl	7.37
			Pyrazine, 2-ethyl-3,5-dimethyl	21.9
		Acid		
			Benzeneacetic acid	1/
			Heptanoic acid	1/
			Hexanoic acid	1/
			Cyclohexanecarboxylic acid	1/
			Benzenebutanoic acid	1/
			Pentanoic acid	1/
			Butanoic acid	1/
			Octanoic acid	1/
			Hexanoic acid, 2-methyl-	1/

1/ Due to the nature of the acid extractable compounds in this sample and their high concentrations (probably mg/L levels), compound separation was very poor. The internal standard used for quantitation could not be found. Therefore, no attempt at quantitation was made, but a qualitative representation of sample constituents is presented.

Table 12.--Analyses for volatile organic compounds from monitor wells in the Austin Chalk Formation on the perimeter of the West Avenue landfill, 1983-84

BEXAR COUNTY

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET)	DICHLOROBROMOMETHANE TOTAL (UG/L)	CARBON-TETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)
CITY 109	83-04-20	1118	114	*	*	<3.0	*	*	*	*
EUWD 3	83-08-29	1055	140	*	*	<3.0	*	*	*	<3.0
	84-06-03	1125	140	*	*	<3.0	*	*	<3.0	<3.0
	84-08-16	--	140	*	*	<3.0	*	*	*	<3.0
EUWD 9	83-08-29	1320	120	*	*	*	*	*	*	<3.0
EUWD 15	83-08-29	1445	120	*	*	<3.0	*	*	<3.0	*
EUWD 17	83-08-29	1520	120	*	*	*	*	*	*	<3.0

LOCAL IDENTIFIER	DATE OF SAMPLE	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)	TRICHLOROFLOUROMETHANE TOTAL (UG/L)	1,1-DICHLOROETHANE TOTAL (UG/L)
CITY 109	83-04-20	6.1	4.8	*	3.1	*	<3.0	<3.0	*	*
EUWD 3	83-08-29	6.6	8.9	*	6.5	*	*	3.1	*	5.3
	84-06-03	4.7	8.7	*	3.3	*	7.0	<3.0	*	3.0
	84-08-16	5.3	6.4	*	<3.0	*	*	<3.0	*	4.0
EUWD 9	83-08-29	4.4	16	*	6.3	*	*	<3.0	*	<3.0
EUWD 15	83-08-29	5.7	<3.0	*	*	*	31	27	5.4	4.4
EUWD 17	83-08-29	<3.0	3.6	*	*	*	<3.0	10	4.6	<3.0

LOCAL IDENTIFIER	DATE OF SAMPLE	1,1-DICHLOROETHYLENE TOTAL (UG/L)	1,1,1-TRICHLOROETHANE TOTAL (UG/L)	1,1,2-TRICHLOROETHANE TOTAL (UG/L)	1,1,2,2 TETRACHLOROETHANE TOTAL (UG/L)	1,2-DICHLOROPROPANE TOTAL (UG/L)	1,2-TRANSDICHLOROETHYLENE TOTAL (UG/L)	1,3-DICHLOROPROPENE TOTAL (UG/L)
CITY 109	83-04-20	*	*	*	*	6.7	35	*
EUWD 3	83-08-29	*	<3.0	*	*	6.0	30	*
	84-06-03	*	*	*	*	6.6	25	*
	84-08-16	*	*	*	*	*	31	*
EUWD 9	83-08-29	*	*	*	*	<3.0	5.0	*
EUWD 15	83-08-29	*	1.0	*	*	4.1	110	*
EUWD 17	83-08-29	*	*	*	*	<3.0	27	*

LOCAL IDENTIFIER	DATE OF SAMPLE	2-CHLOROETHYLVINYLETHER TOTAL (UG/L)	DICHLORODIFLUOROMETHANE TOTAL (UG/L)	VINYL CHLORIDE TOTAL (UG/L)	TRICHLOROETHYLENE TOTAL (UG/L)
CITY 109	83-04-20	*	*	*	9.9
EUWD 3	83-08-29	*	*	15	9.1
	84-06-03	*	*	9.9	2.3
	84-08-16	*	*	15	2.7
EUWD 9	83-08-29	*	*	4.2	1.1
EUWD 15	83-08-29	*	*	3.5	7.8
EUWD 17	83-08-29	*	*	3.8	2.7

* - Not Detected

Table 13.--Summary of regulations for selected water-quality constituents and properties for public water systems

DEFINITIONS

Contaminant----------Any physical, chemical, biological, or radiological substance or matter in water.

Public water system---------A system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves at least 25 individuals daily at least 60 days during the year.

Maximum contaminant level----The maximum permissible level of a contaminant in water which is delivered to the free-flowing outlet of the ultimate user of a public water system. Maximum contaminant levels are those levels set by the U.S. Environmental Protection Agency (1976) in the National Interim Primary Drinking Water Regulations. These regulations deal with contaminants that may have a significant direct impact on the health of the consumer and are enforceable by EPA.

Secondary maximum contaminant level----The advisable maximum level of a contaminant in water which is delivered to the free-flowing outlet of the ultimate user of a public water system. Secondary maximum contaminant levels are those levels proposed by EPA (1977) in the National Secondary Drinking Water Regulations. These regulations deal with contaminants that may not have a significant direct impact on the health of the consumer, but their presence in excessive quantities may affect the esthetic qualities and discourage the utilization of a drinking water supply by the public.

INORGANIC CHEMICALS AND RELATED PROPERTIES

Contaminant	Maximum contaminant level	Secondary maximum contaminant level
Arsenic (As)	50 µg/L	--
Barium (Ba)	1,000 µg/L	--
Cadmium (Cd)	10 µg/L	--
Chloride (Cl)	--	250 mg/L
Chromium (Cr)	50 µg/L	--
Copper (Cu)	--	1,000 µg/L
Iron (Fe)	--	300 µg/L
Lead (Pb)	50 µg/L	--
Manganese (Mn)	--	50 µg/L
Mercury (Hg)	2 µg/L	--
Nitrate (as N)	10 mg/L	--
pH	--	6.5 - 8.5
Selenium (Se)	10 µg/L	--
Silver (Ag)	50 µg/L	--
Sulfate (SO_4)	--	250 mg/L
Zinc (Zn)	--	5,000 µg/L
Dissolved solids	--	500 mg/L

Fluoride-------The maximum contamination level for fluoride depends on the annual average of the maximum daily air temperatures for the location in which the community water system is situated. A range of annual averages of maximum daily air temperatures and corresponding maximum contamination level for fluoride are given in the following tabulation.

Average of maximum daily air temperatures (degrees Celsius)	Maximum contaminant level for fluoride (mg/L)
12.0 and below	2.4
12.1 - 14.6	2.2
14.7 - 17.6	2.0
17.7 - 21.4	1.8
21.5 - 26.2	1.6
26.3 - 32.5	1.4

Table 13.--Summary of regulations for selected water-quality constituents and properties for public water systems--Continued

ORGANIC CHEMICALS

Contaminant	Maximum contaminant level (µg/L)
Chlorinated Hydrocarbons	
Endrin	0.2
Lindane	4
Methoxychlor	100
Toxaphene	5
Chlorophenoxys	
2,4-D	100
Silvex	10

Proposed Maximum Contaminant Levels
(U.S. Environmental Protection Agency, 1985)

Compound	Proposed maximum contaminant level (mg/L)
Trichloroethylene	0.005
Carbon tetrachloride	.005
Vinyl chloride	.001
1,2-Dichloroethane	.005
Benzene	.005
1,1-Dichloroethylene	.007
1,1,1-Trichloroethane	.20
p-Dichlorobenzene	.75

NOTE: The maximum contaminant level for tetrachloroethylene will be proposed later.

The total dissolved-solids concentration is a major limiting factor in the use of water. The following is a general classification of water based on dissolved solids (Winslow and Kister, 1956, p. 5).

Description	Dissolved-solids content, in milligrams per liter
Fresh	Less than 1,000
Slightly saline	1,000 to 3,000
Moderately saline	3,000 to 10,000
Very saline	10,000 to 35,000
Brine	More than 35,000

Table 14.--Streamflow, spring flow, reservoir contents, and water-quality data for streams, October 1982 to September 1983

08167000 GUADALUPE RIVER AT COMFORT, TX

LOCATION.--Lat 29°58'10", long 98°53'33", Kendall County, Hydrologic Unit 12100201, on right bank at downstream side of southbound bridge on Interstate Highway 10, at Comfort, 0.5 mi downstream from Cypress Creek, and at mile 396.2.

DRAINAGE AREA.--839 mi².

PERIOD OF RECORD.--May 1939 to current year.

REVISED RECORDS.--WSP 1632: 1958. WSP 1732: 1939(M). WSP 2123: Drainage area, 1944(M), 1952(M), 1957(M), 1960(M).

GAGE.--Water-stage recorder. Datum of gage is 1,371.83 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 27, 1939, nonrecording gage. Nov. 27, 1939, to June 2, 1980, recording at gage site 0.4 mi upstream at datum 0.22 ft higher (revised).

REMARKS.--Records good. Many small diversions above station for irrigation. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--44 years (water years 1940-83), 186 ft³/s (134,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 240,000 ft³/s Aug. 2, 1978 (gage height, 40.90 ft), from high-water mark in well, from rating curve extended above 74,000 ft³/s on basis of current-meter measurement of 124,000 ft³/s at gage height 32.47 ft and slope-area measurement of 182,000 ft³/s at gage height 38.4 ft, made at former gaging station "near Comfort" 5 mi upstream; no flow at times in 1952-57, 1963-64. All stages are at site and datum then in use.
Maximum stage since at least 1848, that of Aug. 2, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1869 reached a stage of 40.3 ft, from report by Corps of Engineers. Flood of July 1, 1932, reached a stage of 38.4 ft, from floodmark, and from information by State Department of Highways and Public Transportation. Flood of July 16, 1900, reached about the same stage as that of July 1, 1932, from information by local residents. All stages are at site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,260 ft³/s June 15 at 1700 hours (gage height, 3.80 ft), no peak above base of 2,600 ft³/s; minimum daily, 32 ft³/s Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	75	165	64	100	114	118	85	76	85	52	38
2	66	78	163	109	100	112	114	84	77	80	51	38
3	65	131	158	104	95	110	97	80	80	77	51	37
4	65	114	154	104	92	285	100	77	79	73	49	32
5	64	100	149	104	122	327	108	76	242	73	49	35
6	63	92	145	104	143	249	110	66	132	76	52	35
7	73	87	146	104	130	209	100	60	154	90	56	36
8	76	85	121	104	122	199	104	62	132	77	76	40
9	78	85	113	104	120	172	102	59	116	74	79	57
10	78	87	111	104	128	158	100	62	102	71	73	80
11	73	88	115	102	128	149	100	68	93	68	68	71
12	78	87	111	102	122	141	100	75	88	65	65	61
13	88	84	108	101	116	138	100	77	84	64	65	57
14	83	77	123	100	112	138	95	84	80	68	60	64
15	83	79	134	97	170	149	90	93	414	80	60	67
16	77	79	128	99	243	199	87	113	285	84	57	59
17	72	84	127	97	199	179	85	87	207	97	52	54
18	72	87	115	97	172	152	87	83	154	122	49	51
19	73	88	98	100	158	141	86	76	136	98	48	57
20	73	88	89	106	152	145	85	85	126	87	45	59
21	71	90	88	118	141	136	82	248	122	79	43	60
22	70	92	89	122	130	132	89	230	112	74	43	55
23	69	90	93	116	126	136	92	155	106	71	43	55
24	70	97	101	110	122	138	88	127	102	65	43	54
25	72	100	102	106	120	136	84	112	231	63	41	54
26	71	175	98	102	118	149	81	102	168	60	39	54
27	72	252	108	100	116	152	79	98	132	56	40	55
28	74	207	97	99	116	134	83	91	112	54	43	55
29	75	165	62	99	---	122	84	86	100	51	43	56
30	73	184	54	99	---	114	84	80	92	50	40	54
31	74	---	54	99	---	116	---	76	---	51	38	---
TOTAL	2255	3227	3519	3176	3713	4931	2814	2957	4134	2283	1613	1580
MEAN	72.7	108	114	102	133	159	93.8	95.4	138	73.6	52.0	52.7
MAX	88	252	165	122	243	327	118	248	414	122	79	80
MIN	63	75	54	64	92	110	79	59	76	50	38	32
AC-FT	4470	6400	6980	6300	7360	9780	5580	5870	8200	4530	3200	3130

CAL YR 1982	TOTAL	59792	MEAN	164	MAX	4080	MIN 54	AC-FT	118600
WTR YR 1983	TOTAL	36202	MEAN	99.2	MAX	414	MIN 32	AC-FT	71810

08167500 GUADALUPE RIVER NEAR SPRING BRANCH, TX

LOCATION.--Lat 29°23'00", long 98°23'00", Comal County, Hydrologic Unit 12100201, on downstream side of bridge on Ranch Road 311, 1.9 mi southeast of Spring Branch Post Office, 7.5 mi downstream from Curry Creek, and at mile 334.4.

DRAINAGE AREA.--1,315 mi².

PERIOD OF RECORD.--June 1922 to current year.
Water-quality records.--Chemical Biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WSP 1562: 1923-24, 1926, 1927-28(M), 1929, 1930(M). WSP 2123: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 948.10 ft National Geodetic Vertical Datum of 1929. Prior to Jan. 14, 1981, at site 220 ft downstream at same datum.

REMARKS.--Records good. Several small diversions above station for irrigation. Several observations of water temperature were made during the year. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--61 years, 311 ft³/s (225,300 acre-ft).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 160,000 ft³/s Aug. 3, 1978 (gage height, 45.25 ft, from floodmark), from rating curve extended above 55,600 ft³/s on basis of slope-area measurement of peak flow; no flow at times in 1951-52, 1954-56, and 1963-64.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1859, about 53 ft in 1869; flood in July 1900 reached a stage of about 49 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,450 ft³/s June 5 at 1400 hours (gage height, 7.18 ft), no peak above base of 4,000 ft³/s; minimum daily, 47 ft³/s Sept 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	80	195	78	110	138	194	118	131	190	86	52
2	80	81	199	75	107	135	185	119	130	172	82	50
3	78	98	186	82	107	135	187	120	130	158	78	49
4	78	98	174	112	106	145	165	112	130	149	77	49
5	77	133	173	114	112	403	162	107	1100	140	76	48
6	78	113	168	114	112	428	159	104	601	147	76	47
7	79	108	163	114	151	329	161	104	369	139	75	47
8	84	99	160	114	151	261	159	91	316	146	85	49
9	89	97	147	114	149	245	154	86	267	138	99	51
10	88	97	134	114	138	219	153	89	227	127	118	57
11	89	97	134	112	136	201	151	92	202	122	105	76
12	92	96	129	114	142	188	155	93	181	116	99	85
13	91	91	125	112	140	182	152	97	167	112	96	77
14	90	87	123	112	133	176	143	103	319	122	117	70
15	94	86	121	110	150	177	138	115	977	123	96	66
16	90	84	133	109	183	240	135	118	1070	147	87	71
17	89	84	138	109	283	267	135	133	616	205	85	72
18	86	85	138	113	265	247	133	130	441	314	82	69
19	84	88	132	118	218	211	131	117	344	234	76	73
20	80	90	116	118	202	193	130	831	291	192	73	63
21	78	91	106	119	184	183	128	1890	257	170	73	61
22	78	92	102	124	173	181	127	986	235	154	69	63
23	78	93	101	133	161	201	125	493	215	140	64	65
24	78	96	101	135	153	199	126	320	204	130	61	62
25	78	97	101	128	146	193	128	250	447	123	61	61
26	78	122	102	123	143	343	123	212	779	114	59	61
27	79	146	114	117	138	409	122	187	373	105	58	60
28	80	272	114	116	139	281	118	172	286	100	57	60
29	80	260	118	114	---	240	116	159	246	95	56	60
30	80	207	102	110	---	220	117	149	214	91	56	59
31	80	---	82	110	---	201	---	141	---	89	54	---
TOTAL	2563	3368	4131	3487	4332	7171	4312	7838	11265	4504	2436	1833
MEAN	82.7	112	133	112	155	231	144	253	376	145	78.6	61.1
MAX	94	272	199	135	283	428	194	1890	1100	314	118	85
MIN	77	80	82	75	106	135	116	86	130	89	54	47
AC-FT	5080	6680	8190	6920	8590	14220	8550	15550	22340	8930	4830	3640

CAL YR 1982 TOTAL 82242 MEAN 225 MAX 5700 MIN 64 AC-FT 163100
WTR YR 1983 TOTAL 57240 MEAN 157 MAX 1890 MIN 47 AC-FT 113500

08167700 CANYON LAKE NEAR NEW BRAUNFELS, TX

LOCATION.--Lat 29°52'07", long 98°11'55", Comal County, Hydrologic Unit 12100201, in intake structure of Canyon Dam on Guadalupe River, 12 mi northwest of New Braunfels, and at mile 303.0.

DRAINAGE AREA.--1,432 mi².

PERIOD OF RECORD.--July 1962 to current year. Prior to October 1970, published as Canyon Reservoir.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Sept. 24, 1964, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 6,830 ft long, consisting of the main dam 4,410 ft long, an earthen dike 210 ft long, a 1,260-foot-long uncontrolled broad-crested-type spillway, and a 950-foot concrete and earthen nonoverflow section. Deliberate impoundment began June 16, 1964, and main part of dam was completed in August 1964. The flood-control outlet works consist of a 10.0-foot-diameter conduit controlled by two 5.7 by 10.0-foot hydraulically operated slide gates. The lake was built for water conservation and flood control. Capacity table beginning Oct. 1, 1974, is based on a sedimentation survey of August 1972. Small diversions above the lake for irrigation. Gage-height telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	974.0	-
Crest of spillway	943.0	736,700
Top of conservation pool	909.0	382,000
Lowest gated outlet (invert)	775.0	240

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 588,400 acre-ft Aug. 4, 1978 (elevation, 930.61 ft); minimum observed since conservation pool first reached in April 1968, 338,600 acre-ft Sept. 5, 1980 (elevation, 903.54 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 365,800 acre-ft Jan. 18, 19 (elevation, 907.01 ft); minimum daily, 346,600 acre-ft Sept. 30 (elevation, 904.57 ft).

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

904.0	342,200	906.0	357,800
905.0	349,900	907.0	365,800

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	359100	356600	360300	364200	362900	360300	363400	350500	357000	364200	356100	348600
2	359100	357100	361200	364100	362200	360300	362700	350600	356700	363900	355700	348300
3	359000	357100	361400	364100	361900	360200	362200	350500	356500	363500	355000	347900
4	358900	357000	361500	364200	361800	360300	361900	350300	356500	363300	354700	347400
5	358800	356900	361500	364200	361800	360500	361400	350200	358200	363100	354400	347100
6	358800	356900	361700	364400	361500	360800	360700	350200	359000	363000	354200	346800
7	358900	356800	361800	364600	361200	360800	360000	350200	358900	362600	354000	346700
8	359000	356700	361900	364600	361100	360900	359400	349900	358900	362300	354200	347100
9	358900	356600	361900	364600	361500	360800	358800	349800	358900	362000	354100	347000
10	358800	356900	362400	364600	361400	360700	358100	350100	358800	361600	353900	347000
11	358800	356800	362500	364600	361200	360300	357300	350100	358700	361200	353800	347000
12	358700	356700	362600	364800	360900	360300	356900	350000	358600	360900	354100	347000
13	358600	356600	362600	365000	360700	360200	356500	350000	358400	360600	353900	347000
14	358500	356500	362600	365000	360600	360100	355600	350100	358700	360700	353800	346900
15	358400	356500	362600	365000	361300	360700	354700	350100	359900	360500	353600	346900
16	358200	356400	362600	365000	361200	361000	354100	349900	361400	360700	353300	346800
17	358000	356400	362800	365000	361200	360800	353400	349900	361900	360800	353100	346700
18	357900	356400	363000	365800	361300	360800	352700	350100	362200	361000	352800	347400
19	357700	356400	363000	365800	361500	361000	352200	350300	362300	360900	352400	348200
20	357600	356400	363100	365500	361600	360800	352000	352500	362400	360700	352000	348100
21	357500	356400	363200	365400	361500	360500	351900	356900	362300	360600	351800	347400
22	357400	356500	363400	365100	361400	360300	351800	358400	362300	360300	351400	347300
23	357300	357200	363400	364800	361200	362200	351400	359400	362200	359900	351200	347000
24	357200	357100	363500	364600	361100	362400	351100	359500	362100	359500	350800	346900
25	357200	357000	363600	364400	361000	362600	350700	359200	363800	359100	350600	346800
26	357100	358500	363700	364200	360700	364000	350500	359100	364600	358600	350400	346800
27	357000	359000	363800	363800	360600	364500	350300	358900	364800	358200	350100	346800
28	356900	359400	363800	363700	360400	364600	350400	358600	364700	357700	349800	346700
29	356900	359800	363800	363400	---	364300	350500	358400	364600	357300	349500	346700
30	356800	360000	363800	363400	---	364200	350200	358000	364500	356900	349200	346600
31	356700	---	363800	363400	---	363900	---	357500	---	356500	348800	---
MAX	359100	360000	363800	365800	362900	364600	363400	359500	364800	364200	356100	348600
MIN	356700	356400	360300	363400	360400	360100	350200	349800	356500	356500	348800	346600
(†)	905.86	906.28	906.75	906.70	906.33	906.77	905.03	905.96	906.84	905.83	904.86	904.57
(‡)	-2200	+3300	+3800	-400	-3000	+3500	+13700	+7300	+7000	-8000	-7700	-2200

CAL YR 1982 MAX 383800 MIN 356400 ‡ +400
WTR YR 1983 MAX 365800 MIN 346600 ‡ -12330

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

08167800 GUADALUPE RIVER AT SATTLER, TX

LOCATION.--Lat 29°51'32", long 98°10'47", Comal County, Hydrologic Unit 12100202, on right bank 200 ft upstream from Horseshoe Falls, 0.8 mi north of Sattler, 1.8 mi downstream from Canyon Dam, 2.3 mi upstream from Heiser Hollow, 11.2 mi north of New Braunfels, and at mile 301.2.

DRAINAGE AREA.--1,436 mi^2, of which 1,432 mi^2 is above Canyon Dam.

PERIOD OF RECORD.--March 1960 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 742.24 ft National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Records good. Flow completely regulated since July 21, 1962, by Canyon Lake (station 08167700) 1.8 mi upstream. Small diversions above station for irrigation. Gage-height telemeter located at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years (water years 1962-83) since regulation began at Canyon Lake, 394 ft^3/s (285,500 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,800 ft^3/s Oct. 29, 1960 (gage height, 12.20 ft). Maximum discharge since closure of Canyon Dam on July 21, 1962, 5,850 ft^3/s Aug. 5, 1978 (gage height, 8.31 ft); no flow July 31 to Aug. 6, 1962 (result of closure of Canyon Dam), and part of Jan. 29, 30, Feb. 1, 1965 (result of closure while constructing present control).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1869 (stage unknown) has not been exceeded since that date; flood in July 1900 (stage unknown) exceeded 39 ft; maximum stage since at least 1904, 39 ft in July 1932 and June 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 512 ft^3/s Mar. 28 at 1630 hours (gage height, 5.57 ft); minimum daily, 45 ft^3/s Sept. 24-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	79	79	76	241	245	512	126	318	268	261	148
2	79	79	79	76	241	247	512	126	318	268	261	148
3	79	81	80	76	241	247	512	126	318	268	261	148
4	79	80	80	76	241	247	512	127	318	268	205	148
5	79	80	79	76	241	247	507	128	325	268	164	148
6	79	80	79	76	241	247	506	128	317	268	164	116
7	79	80	79	76	241	247	506	128	313	268	156	55
8	79	80	79	76	241	247	506	128	273	268	153	53
9	79	80	79	76	242	247	506	126	218	268	150	50
10	79	80	79	76	244	247	506	126	218	271	150	50
11	79	80	79	76	244	247	506	126	218	271	150	50
12	79	80	79	76	244	247	506	126	218	271	150	50
13	79	80	79	76	244	247	506	126	218	271	150	48
14	79	80	90	76	244	247	506	123	136	271	150	48
15	79	80	121	76	244	248	501	122	169	271	150	48
16	79	80	76	76	244	251	500	122	222	271	150	48
17	79	80	76	76	244	251	500	122	221	271	150	48
18	79	80	76	76	244	251	500	122	224	272	149	48
19	79	80	76	180	244	251	449	120	224	269	148	48
20	79	80	76	271	244	251	252	131	224	268	148	47
21	79	80	76	271	244	251	254	134	243	268	148	47
22	79	80	76	271	244	251	254	125	257	268	148	46
23	79	80	76	271	244	261	254	123	257	268	148	46
24	79	79	76	271	244	259	254	278	257	268	148	45
25	79	79	76	262	244	257	254	394	286	268	148	45
26	79	79	76	241	244	269	254	318	271	268	148	45
27	79	79	76	241	244	261	254	318	268	265	148	45
28	79	79	76	241	244	364	212	318	268	264	148	45
29	79	79	76	241	---	512	122	318	268	264	148	45
30	79	79	76	241	---	512	124	318	268	264	148	45
31	79	---	76	241	---	512	---	318	---	261	148	---
TOTAL	2449	2392	2456	4611	6806	8668	12047	5471	7653	8315	5048	2001
MEAN	79.0	79.7	79.2	149	243	280	402	176	255	268	163	66.7
MAX	79	81	121	271	244	512	512	394	325	272	261	148
MIN	79	79	76	76	241	245	122	120	136	261	148	45
AC-FT	4860	4740	4870	9150	13500	17190	23900	10850	15180	16490	10010	3970

CAL YR 1982 TOTAL 77839 MEAN 213 MAX 755 MIN 76 AC-FT 154400
WTR YR 1983 TOTAL 67917 MEAN 186 MAX 512 MIN 45 AC-FT 134700

GUADALUPE RIVER BASIN

08168000 HUECO SPRINGS NEAR NEW BRAUNFELS, TX

LOCATION.--Lat 29°45'34", long 98°08'24", Comal County, Hydrologic Unit 12100202, two springs located 1,700 ft (520 m) upstream from mouth of unnamed tributary which enters the Guadalupe River at Slumber Falls, and 4.2 mi (6.8 km) north of New Braunfels.

DRAINAGE AREA.--Not applicable.

PERIOD OF RECORD.--August 1944 to current year. Miscellaneous measurements only.

GAGE.--None.

REMARKS.--Discharge represents flow from springs. Surface runoff from precipitation is excluded. No diversion above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum spring discharge measured 131 ft^3/s (3.71 m^3/s) Jan. 21, 1968; no flow at times in 1948-49, 1951-57, 1963-64, 1967.

DISCHARGE MEASUREMENTS, IN CUBIC FEET PER SECOND
WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)
Oct. 18, 1982	7.24	Feb. 28, 1983	25.8	July 19, 1983	36.2
Dec. 7	17.7	Apr. 14	40.9	Aug. 30	13.9
Jan. 18, 1983	13.1	June 1	77.9		

08168500 GUADALUPE RIVER ABOVE COMAL RIVER AT NEW BRAUNFELS, TX

LOCATION.--Lat 29°42'53", long 98°06'35", Comal County, Hydrologic Unit 12100202, on right bank at New Braunfels, 1.1 mi upstream from Comal River, 21.9 mi downstream from Canyon Lake, and at mile 281.1.

DRAINAGE AREA.--1,518 mi².

PERIOD OF RECORD.--December 1927 to current year.

REVISED RECORDS.--WSP 898: 1935. WSP 1562: 1932. WSP 2123: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 586.65 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Small diversions for irrigation below station 08167800 and above this station. Since July 21, 1962, flow is largely regulated by Canyon Lake (station 08167700) 21.9 mi upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years (water years 1929-62) prior to regulation by Canyon Lake, 372 ft³/s (269,500 acre-ft/yr); 21 years (water years 1963-83) regulated, 485 ft³/s (351,400 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 101,000 ft³/s June 15, 1935 (gage height, 32.95 ft); no flow July 8, 9, July 17 to Aug. 20, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1845, 38 ft July 8, 1869, and in December 1913, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,360 ft³/s May 21 at 1400 hours (gage height, 3.37 ft); minimum daily, 75 ft³/s Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	93	111	114	275	281	654	167	417	350	293	174
2	95	96	113	113	270	281	637	166	418	344	293	174
3	93	110	152	111	269	281	631	164	415	338	293	174
4	92	93	146	110	270	285	630	161	410	330	281	173
5	92	94	132	110	283	281	625	160	462	324	203	171
6	93	94	124	110	272	281	621	157	427	318	203	170
7	95	94	119	110	269	275	618	157	418	325	199	111
8	97	95	118	110	269	275	612	153	405	316	203	80
9	96	94	113	108	275	275	612	155	330	312	229	92
10	104	98	121	107	275	275	606	153	322	315	202	82
11	98	101	119	107	275	275	603	166	318	313	196	83
12	104	94	116	106	275	275	603	167	317	312	192	79
13	100	92	115	105	275	275	600	160	310	313	189	77
14	95	93	116	105	276	275	593	157	288	337	187	75
15	94	92	160	105	312	281	585	163	213	320	188	88
16	93	94	116	104	304	287	585	153	340	343	187	77
17	92	97	102	104	305	275	585	151	334	364	185	76
18	92	97	103	111	302	275	582	156	327	358	184	86
19	93	97	104	126	299	275	580	153	323	344	185	149
20	91	97	104	311	301	281	388	343	318	335	183	123
21	91	96	104	317	294	275	312	624	321	323	181	93
22	92	94	105	318	293	275	306	405	347	318	179	88
23	92	95	105	320	290	410	303	333	343	316	179	86
24	91	101	104	323	287	434	299	319	338	312	179	83
25	92	94	102	315	287	410	297	599	427	306	179	82
26	92	123	98	285	285	510	296	452	387	304	179	82
27	92	158	110	281	281	466	297	440	378	302	179	81
28	94	137	101	281	281	458	293	433	370	300	179	82
29	95	121	99	281	---	645	203	426	363	299	178	81
30	93	112	99	281	---	659	166	418	356	299	175	79
31	93	---	102	281	---	649	---	418	---	295	174	---
TOTAL	2923	3046	3533	5670	7949	10755	14722	8229	10742	9985	6236	3151
MEAN	94.3	102	114	183	284	347	491	265	358	322	201	105
MAX	104	158	160	323	312	659	654	624	462	364	293	174
MIN	91	92	98	104	269	275	166	151	213	295	174	75
AC-FT	5800	6040	7010	11250	15770	21330	29200	16320	21310	19810	12370	6250

CAL YR 1982 TOTAL 90404 MEAN 248 MAX 941 MIN 91 AC-FT 179300
WTR YR 1983 TOTAL 86941 MEAN 238 MAX 659 MIN 75 AC-FT 172400

08169000 COMAL RIVER AT NEW BRAUNFELS, TX

LOCATION.--Lat 29°42'21", long 98°07'20", Comal County, Hydrologic Unit 12100202, on right bank 200 ft upstream from San Antonio Street viaduct in New Braunfels and 1.1 mi upstream from mouth.

DRAINAGE AREA.--130 mi². Normal flow of river comes from springs; drainage area not applicable.

PERIOD OF RECORD.--1882 to current year (1882 to November 1927, discharge measurements only).

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1955. Datum of gage is 582.80 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. The flow from Comal Springs emerges from the Edwards and associated limestones in the Balcones Fault Zone. Except during periods of rainfall, flow of river is primarily from Comal Springs about 1.0 mi upstream. Flow is affected at times by cleanup operations by the city of New Braunfels at Landa Park Lake and at times by discharge from the flood-detention pools of five floodwater-retarding structures with a combined detention capacity of 17,580 acre-ft. These structures control runoff from 74.6 mi². Several observation of water temperature were made during the year.

AVERAGE DISCHARGE.--51 years (water years 1933-83), 298 ft³/s (215,900 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,800 ft³/s May 11, 1972 (gage height, 36.55 ft, from floodmark), from rating curve extended above 13,000 ft³/s on basis of contracted-opening measurements on Blieders and Dry Comal Creeks and unit rainfall-runoff studies; no flow from Comal Springs from June 13 to Nov. 3, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood information begins with flood of July 8, 1869, which reached a stage of 36.91 ft, from painted and dated marks in old Remmert Brewery 0.5 mi downstream; the flood of Oct. 17, 1870, reached a stage of 37.65 ft at same site (probably some backwater from Guadalupe River).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 781 ft³/s May 21 at 1500 hours (gage height, 5.12 ft), no peak above base of 1,100 ft³/s; minimum daily, 171 ft³/s Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217	232	258	282	274	266	268	246	250	219	219	187
2	222	238	254	278	270	262	274	244	258	219	204	180
3	222	242	258	276	270	262	270	238	242	215	208	174
4	215	234	254	278	274	262	270	238	246	211	208	177
5	215	234	254	278	278	262	270	233	261	204	204	180
6	215	242	258	278	274	262	274	234	254	204	215	177
7	222	238	258	274	274	266	274	222	246	219	222	171
8	222	238	254	274	274	258	270	222	242	208	289	177
9	222	238	258	282	274	258	266	222	250	208	253	180
10	234	242	258	274	249	258	274	226	242	204	222	187
11	230	238	262	274	270	254	270	226	246	211	230	191
12	238	246	262	274	262	254	266	226	242	204	222	194
13	230	238	266	274	262	250	262	226	246	204	222	191
14	226	238	266	274	266	250	262	219	242	288	222	187
15	230	242	266	274	316	262	262	230	281	226	226	191
16	230	242	266	270	271	262	254	234	258	234	219	191
17	234	246	266	296	274	254	258	227	254	250	219	187
18	234	246	266	290	270	254	262	230	254	234	219	217
19	234	246	266	286	270	254	254	230	254	238	208	211
20	238	246	266	282	266	254	254	269	254	238	215	201
21	230	238	266	282	266	254	254	471	246	238	211	197
22	234	242	270	282	266	254	254	278	258	234	211	201
23	234	254	270	289	266	368	250	250	246	234	197	201
24	234	250	270	282	262	286	254	246	242	234	201	204
25	234	246	270	274	262	270	254	250	285	234	201	204
26	244	274	270	274	262	342	246	254	266	226	194	198
27	238	274	278	274	262	286	246	246	246	226	194	197
28	225	258	274	274	262	270	246	250	238	226	194	201
29	238	254	274	274	---	266	246	254	232	215	194	201
30	230	254	270	274	---	274	246	250	234	215	187	201
31	226	---	278	274	---	270	---	250	---	215	191	---
TOTAL	7097	7350	8206	8621	7546	8304	7810	7641	7515	6935	6621	5756
MEAN	229	245	265	278	270	268	260	246	251	224	214	192
MAX	244	274	278	296	316	368	274	471	285	288	289	217
MIN	215	232	254	270	249	250	246	219	232	204	187	171
AC-FT	14080	14580	16280	17100	14970	16470	15490	15160	14910	13760	13130	11420

CAL YR 1982 TOTAL 101441 MEAN 278 MAX 1520 MIN 201 AC-FT 201200
WTR YR 1983 TOTAL 89402 MEAN 245 MAX 471 MIN 171 AC-FT 177300

GUADALUPE RIVER BASIN

COMAL SPRINGS AT NEW BRAUNFELS, TX

LOCATION.--Lat 29°42'21", long 98°07'20", Comal County, Hydrologic Unit 12100202, on right bank 200 ft (61 m) upstream from San Antonio Street viaduct in New Braunfels and 1.1 mi (1.8 km) upstream from mouth.

DRAINAGE AREA.--Not applicable. Flow at station has been corrected to reflect only flow from Comal Springs.

PERIOD OF RECORD.--1882 to current year (1882 to November 1927, discharge measurements only).

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1955. Datum of gage is 582.80 ft (177.637 m) National Geodetic Vertical Datum of 1929.

REMARKS.--The flow from Comal Springs emerges from the Edwards and associated Limestones in the Balcones Fault Zone. Except during period of rainfall, flow of river is primarily from Comal Springs about 1.0 mi (1.6 km) upstream. Flow at gaging station 08169000 Comal River at New Braunfels, Tex. has been corrected to reflect only that flow from Comal Springs.

AVERAGE DISCHARGE.--56 years (water years 1928-83), 289 ft^3/s (8.213 m^3/s), 209,500 acre-ft/yr (259 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily spring discharge, 534 ft^3/s (15.121 m^3/s) Oct. 16, 1973; no flow June 13 to Nov. 4, 1956.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217	232	258	282	274	266	268	246	250	219	219	187
2	222	238	254	278	270	262	274	244	258	219	204	180
3	222	242	258	276	270	262	270	238	242	215	208	174
4	215	234	254	278	274	262	270	238	246	211	208	177
5	215	234	254	278	278	262	270	233	258	204	204	180
6	215	242	258	278	274	262	274	234	254	204	215	177
7	222	238	258	274	274	266	274	222	246	219	222	171
8	222	238	254	274	274	258	270	222	242	208	226	177
9	222	238	258	282	274	258	266	222	250	208	246	180
10	234	242	258	274	249	258	274	226	242	204	222	187
11	230	238	262	274	270	254	270	226	246	211	230	191
12	238	242	262	274	262	254	266	226	242	204	222	194
13	230	238	266	274	262	250	262	226	246	204	222	191
14	226	238	266	274	266	250	262	219	242	250	222	187
15	230	242	266	274	308	262	262	230	262	226	226	191
16	230	242	266	270	271	262	254	234	258	230	219	191
17	234	246	266	296	274	254	258	227	254	250	219	187
18	234	246	266	290	270	254	262	230	254	234	219	191
19	234	246	266	286	270	254	254	230	254	238	208	204
20	238	246	266	282	266	254	254	246	254	238	215	201
21	230	238	266	282	266	254	254	290	246	238	211	197
22	234	242	270	282	266	254	254	270	258	234	211	201
23	234	242	270	289	266	340	250	250	246	234	197	201
24	234	242	270	282	262	286	254	246	242	234	201	204
25	234	246	270	274	262	270	254	250	266	234	201	204
26	244	270	270	274	262	322	246	254	266	226	194	198
27	238	274	274	274	262	286	246	246	246	226	194	201
28	225	258	274	274	262	270	246	250	238	215	194	201
29	238	254	274	274	--	266	246	254	232	215	187	201
30	230	254	270	274	--	274	246	250	234	215	187	201
31	226	--	278	274	--	270	--	250	--	215	191	--
TOTAL	7,097	7,322	8,202	8,621	7,538	8,256	7,810	7,429	7,474	6,893	6,551	5,723
MEAN	229	244	265	278	269	266	260	240	249	222	211	191
MAX	244	274	278	296	308	340	274	290	266	250	246	204
MIN	215	232	254	270	249	250	246	219	232	204	187	171

CAL YR 1982 TOTAL 99,089 MEAN 274 MAX 360 MIN 201 AC-FT 198,100
WTR YR 1983 TOTAL 88,916 MEAN 244 MAX 340 MIN 171 AC-FT 176,400

08170000 SAN MARCOS RIVER SPRINGFLOW AT SAN MARCOS, TX

LOCATION.--Lat 29°52'06", long 97°55'38", Hays County, Hydrologic Unit 12100203, on left bank 0.7 mi downstream from bridge on Interstate Highway 35 and U.S. Highway 81, 1.2 mi southeast of courthouse in San Marcos, and 2.1 mi upstream from Blanco River.

DRAINAGE AREA.--93.0 mi². Normal flow of river comes from springs, drainage area of stream not applicable.

PERIOD OF RECORD.--May 1956 to current year. June 1915 to January 1916, March 1916 to September 1921, and May to September 1956, published as San Marcos River at San Marcos; records include some surface runoff. Periodic measurements of springflow were made at this location outside periods of records since Nov. 14, 1894, and are published as miscellaneous measurements.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 536.82 ft National Geodetic Vertical Datum of 1929. June 10, 1915, to Jan. 19, 1916, nonrecording gage at site 1.2 mi upstream, and Mar. 13, 1916, to Sept. 7, 1921, water-stage recorder near present site, datum relations unknown.

REMARKS.--Records good. Flow slightly regulated by utilities dam about 1.5 mi upstream. Entire flow of river is from San Marcos Springs, about 1.8 mi upstream, except during period of local runoff. Springs emerge from the Edwards and associated limestones in the Balcones Fault Zone. Small diversion for operation of State fish hatchery, some of which is returned above gage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years (water years 1957-83), 166 ft³/s (120,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily spring discharge (estimated), 350 ft³/s June 20, 1981; maximum discharge, 76,600 ft³/s May 15, 1970 (gage height, 35.12 ft); minimum daily spring discharge, 46 ft³/s Aug. 15, 16, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1913, 38.6 ft Sept. 10, 1921 (from floodmark, backwater from Blanco River), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum daily spring discharge, 218 ft³/s May 22; maximum gage height, 13.00 ft June 25 at 0700 hours (flood runoff); minimum daily spring discharge, 108 ft³/s Jan. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	115	121	124	111	123	172	152	179	176	168	148
2	120	120	122	119	111	122	170	153	178	176	165	149
3	119	121	127	120	112	124	170	149	177	177	164	146
4	120	115	122	119	114	129	172	148	175	177	163	145
5	119	115	120	117	121	127	170	144	180	178	166	148
6	118	117	119	118	116	129	170	147	185	175	167	147
7	118	117	118	116	114	128	169	147	181	173	168	146
8	121	118	114	116	115	125	169	149	176	173	172	145
9	121	116	113	116	120	126	168	149	174	174	168	146
10	126	114	121	115	117	126	168	151	174	175	164	148
11	123	116	118	113	115	127	167	147	174	174	162	148
12	127	112	118	111	116	130	167	154	174	174	159	146
13	121	114	119	108	115	132	167	153	173	175	163	144
14	120	113	118	110	115	134	166	151	172	180	162	143
15	120	113	116	111	129	132	164	159	175	184	160	140
16	121	114	115	112	121	141	163	152	183	180	159	140
17	120	115	116	113	118	137	163	150	182	178	159	144
18	120	115	119	119	119	137	162	152	176	177	160	148
19	120	116	117	119	122	140	160	149	174	182	159	164
20	119	118	117	115	124	140	159	162	174	177	160	156
21	119	117	119	116	125	138	160	197	173	172	159	146
22	119	118	120	112	124	138	158	218	173	172	157	146
23	116	121	120	115	124	167	156	195	171	172	157	146
24	115	120	120	118	124	153	155	187	171	173	155	144
25	115	120	119	116	123	153	155	180	185	172	154	143
26	116	134	119	111	124	173	154	180	194	171	154	141
27	116	129	125	109	125	169	154	180	187	171	154	140
28	116	120	119	111	124	165	153	180	182	172	154	141
29	117	121	119	114	---	166	153	181	178	172	151	139
30	116	121	119	114	---	172	152	179	176	170	150	139
31	115	---	121	114	---	177	---	179	---	169	148	---
TOTAL	3692	3535	3690	3561	3338	4380	4886	5074	5326	5421	4961	4366
MEAN	119	118	119	115	119	141	163	164	178	175	160	146
MAX	127	134	127	124	129	177	172	218	194	184	172	164
MIN	115	112	113	108	111	122	152	144	171	169	148	139
AC-FT	7320	7010	7320	7060	6620	8690	9690	10060	10560	10750	9840	8660

CAL YR 1982 TOTAL 47126 MEAN 129 MAX 172 MIN 112 AC-FT 93470
WTR YR 1983 TOTAL 52230 MEAN 143 MAX 218 MIN 108 AC-FT 103600

08171000 BLANCO RIVER AT WIMBERLEY, TX

LOCATION.--Lat 29°59'39", long 98°05'19", Hays County, Hydrologic Unit 12100203, on left bank at downstream side of highway, near left end of bridge on Ranch Road 12, 0.3 mi southeast of Wimberley, 2,200 ft downstream from Cypress Creek, and at mile 29.0.

DRAINAGE AREA.--355 mi^2.

PERIOD OF RECORD.--August 1924 to September 1926, June 1928 to current year.

REVISED RECORDS.--WSP 1562: 1929, 1930-31(M), 1935-36(M), 1938(M), 1941-42(M), 1947(M), 1949(M). WSP 2123: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 797.23 ft National Geodetic Vertical Datum of 1929. Aug. 6, 1924, to Sept. 30, 1926, nonrecording gage at site 1,030 ft upstream at datum 5.00 ft higher. Recording gage from June 6, 1928, to June 12, 1975, at site 1,000 ft upstream at datum 5.00 ft higher.

REMARKS.--Records good. Numerous small diversions above station. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--57 years (water years 1925-26, 1929-83), 123 ft^3/s (4.71 in/yr), 89,110 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 113,000 ft^3/s May 28, 1929 (gage height, 33.3 ft, corrected, from floodmark), present site and datum, from rating curve extended above 30,000 ft^3/s on basis of slope-area measurements of 95,000 and 113,000 ft^3/s; minimum, 0.6 ft^3/s Aug. 16, 1956.
Maximum stage since at least 1869, that of May 28, 1929.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1869 reached a stage of 25 ft (corrected), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,200 ft^3/s May 21 at 1030 hours (gage height, 7.76 ft), no other peak above base of 1,800 ft^3/s; minimum daily, 23 ft^3/s Dec. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	27	48	33	32	59	227	82	120	113	68	41
2	31	30	46	34	30	58	201	81	122	107	66	39
3	29	41	50	31	29	58	193	79	117	102	65	37
4	29	29	47	29	29	130	187	79	114	97	65	36
5	27	28	43	29	36	138	173	78	348	95	64	35
6	28	29	40	29	31	126	165	76	335	97	62	34
7	34	31	38	27	30	119	156	74	192	91	61	33
8	35	31	35	27	31	108	150	73	181	89	60	35
9	30	30	38	27	42	99	144	72	155	87	65	40
10	33	36	44	27	44	90	144	75	144	84	64	37
11	30	33	33	25	41	86	141	91	134	83	62	35
12	34	30	33	25	41	82	137	75	125	80	64	36
13	33	28	33	25	42	82	132	75	119	79	61	36
14	29	27	34	25	41	76	123	74	113	91	58	33
15	29	27	34	24	61	91	118	77	325	86	58	32
16	28	29	32	24	70	125	115	71	231	107	56	32
17	28	31	32	24	71	116	109	70	182	96	52	31
18	28	31	31	32	71	109	110	71	157	110	50	36
19	28	32	31	32	70	106	108	68	142	121	55	261
20	26	32	30	30	71	102	105	259	134	102	54	101
21	25	28	30	34	64	96	103	1210	127	96	62	58
22	27	27	31	36	63	91	102	514	121	91	60	53
23	27	28	27	36	62	175	99	254	117	88	54	49
24	26	34	27	36	63	165	95	202	113	86	51	46
25	26	30	27	34	61	151	93	176	366	83	48	45
26	27	57	24	33	60	327	91	164	296	83	47	45
27	26	94	31	32	60	245	89	154	185	81	45	43
28	27	72	26	32	59	227	88	146	152	78	43	43
29	26	58	24	33	---	202	86	137	130	75	43	41
30	26	52	23	32	---	379	83	131	118	73	41	40
31	26	---	25	33	---	266	---	125	---	70	41	---
TOTAL	889	1092	1047	930	1405	4284	3867	4913	5215	2821	1745	1463
MEAN	28.7	36.4	33.8	30.0	50.2	138	129	158	174	91.0	56.3	48.8
MAX	35	94	50	36	71	379	227	1210	366	121	68	261
MIN	25	27	23	24	29	58	83	68	113	70	41	31
CFSM	.08	.10	.10	.09	.14	.39	.36	.45	.49	.26	.16	.14
IN.	.09	.11	.11	.10	.15	.45	.41	.51	.55	.30	.18	.15
AC-FT	1760	2170	2080	1840	2790	8500	7670	9740	10340	5600	3460	2900

CAL YR 1982 TOTAL 26855 MEAN 73.6 MAX 4380 MIN 23 CFSM .21 IN 2.81 AC-FT 53270
WTR YR 1983 TOTAL 29671 MEAN 81.3 MAX 1210 MIN 23 CFSM .23 IN 3.11 AC-FT 58850

08171300 BLANCO RIVER NEAR KYLE, TX

LOCATION.--Lat 29°58'45", long 97°54'35", Hays County, Hydrologic Unit 12100203, on left bank 800 ft downstream from Tarbutton Ranch House (Hatchett Ranch), 2.2 mi southwest of Kyle, 4.2 mi downstream from Halifax Creek, and 6.3 mi upstream from bridge on U.S. Highway 81.

DRAINAGE AREA.--412 mi^2.

PERIOD OF RECORD.--May 1956 to current year.

REVISED RECORDS.--WSP 1923: 1957-58, 1960(M). WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 620.12 ft Corps of Engineers datum.

REMARKS.--Records good except those for period of no gage-height record, Jan. 5 to Feb. 14, which are fair. Small diversions above station for irrigation. Most of the low flow of the Blanco River enters the Edwards and associated limestones in the Balcones Fault Zone which crosses the basin upstream from this station and below the station at Wimberley. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27, 148 ft^3/s (4.88 in/yr), 107,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 98,000 ft^3/s May 2, 1958 (gage height, 36.3 ft, from floodmark), from rating curve extended above 37,000 ft^3/s on basis of slope-area measurement of 139,000 ft^3/s and slope-conveyance study; no flow at times in 1956-57, 1963-65, 1967, 1971, and 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1882, about 40 ft in May 1929, from information by local residents (discharge, 139,000 ft^3/s). Flood of Sept. 11, 1952, reached a stage of 38.0 ft (discharge, 115,000 ft^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,370 ft^3/s May 21 at 1400 hours (gage height, 11.75 ft), no other peak above base of 2,500 ft^3/s; minimum daily, 2.5 ft^3/s Oct. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	3.8	14	18	19	38	264	68	111	92	42	21
2	4.1	4.1	13	22	17	37	232	65	106	84	40	21
3	4.0	9.5	15	21	16	37	214	64	100	78	38	19
4	3.2	8.5	13	20	16	90	209	59	96	74	37	19
5	2.7	5.2	14	20	23	108	193	56	144	72	38	18
6	2.7	3.8	13	20	18	95	179	54	373	76	38	17
7	3.2	3.8	12	18	17	86	168	54	194	70	36	16
8	4.6	4.5	11	18	18	78	159	50	161	66	52	16
9	7.4	4.8	10	18	29	73	152	48	136	63	46	21
10	5.1	4.6	12	18	31	68	142	51	121	61	46	24
11	5.2	6.8	18	16	28	63	135	81	111	59	37	21
12	5.4	7.2	13	16	28	60	130	57	102	57	38	19
13	7.2	4.6	11	16	29	60	125	54	96	56	43	19
14	5.7	3.8	12	16	28	59	115	53	92	76	36	18
15	3.9	3.5	13	15	58	66	109	60	222	71	36	17
16	3.4	3.9	13	15	56	116	104	57	236	77	36	16
17	2.9	4.5	12	15	55	107	100	50	210	102	34	15
18	3.0	4.9	12	21	52	98	95	55	146	80	31	21
19	3.2	5.2	13	21	50	96	95	52	128	95	31	205
20	3.3	6.2	12	19	51	96	94	185	113	85	38	145
21	2.7	5.8	12	23	46	87	92	1580	109	75	33	49
22	2.5	5.5	12	23	45	84	91	743	98	69	39	32
23	3.2	5.0	12	23	44	183	85	314	95	65	35	29
24	3.8	5.9	12	23	43	204	81	234	91	62	32	25
25	3.4	7.2	12	21	42	172	77	196	225	59	30	23
26	3.4	12	11	20	41	366	74	172	298	57	28	22
27	3.7	30	13	19	40	276	74	158	171	53	26	21
28	4.1	32	17	19	39	261	71	146	135	51	25	20
29	5.3	20	16	20	---	230	71	135	113	49	24	19
30	3.7	16	14	19	---	403	70	125	98	46	23	19
31	3.6	---	14	20	---	327	---	116	---	44	22	---
TOTAL	122.8	242.6	401	593	979	4124	3800	5192	4431	2124	1090	947
MEAN	3.96	8.09	12.9	19.1	35.0	133	127	167	148	68.5	35.2	31.6
MAX	7.4	32	18	23	58	403	264	1580	373	102	52	205
MIN	2.5	3.5	10	15	16	37	70	48	91	44	22	15
CFSM	.01	.02	.03	.05	.09	.32	.31	.41	.36	.17	.09	.08
IN.	.01	.02	.04	.05	.09	.37	.34	.47	.40	.19	.10	.09
AC-FT	244	481	795	1180	1940	8180	7540	10300	8790	4210	2160	1880

CAL YR 1982 TOTAL 21545.5 MEAN 59.0 MAX 5420 MIN 2.5 CFSM .14 IN 1.95 AC-FT 42740
WTR YR 1983 TOTAL 24046.4 MEAN 65.9 MAX 1580 MIN 2.5 CFSM .16 IN 2.17 AC-FT 47700

NOTE.--No gage-height record Jan. 5 to Feb. 14.

08172400 PLUM CREEK AT LOCKHART, TX

LOCATION.--Lat 29°55'22", long 97°40'44", Caldwell County, Hydrologic Unit 12100203, on right bank 548 ft upstream from bridge on U.S. Highway 183, 2.7 mi north of Lockhart, 3.7 mi upstream from Town Creek, 5.0 mi downstream from Brushy Creek, and 30.4 mi upstream from mouth.

DRAINAGE AREA.--112 mi^2.

PERIOD OF RECORD.--April 1959 to current year.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 431.19 ft National Geodetic Vertical Datum of 1929. Apr. 30, 1959, to July 25, 1968, at site 548 ft downstream at present datum.

REMARKS.--Records good. No known diversion above station. Flow at times is affected by discharge from the flood-detention pools of 17 floodwater-retarding structures with a combined detention capacity of 24,850 acre-ft. These structures control runoff from 67.8 mi^2 above this station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years, 47.8 ft^3/s (34,630 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,600 ft^3/s Oct. 29, 1960 (gage height, 20.62 ft); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1905, 22 ft in June 1936 at present site; flood in 1951 reached a stage of 20 ft at present site, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 23	1500	2,540	a14.98
May 21	1400	*4,770	a15.94

a From floodmark.

Minimum daily discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.02	15	.81	4.7	210	1.1	13	.58	.00	.00
2	.00	.00	.02	6.3	.85	4.2	126	1.1	9.7	.21	.00	.00
3	.00	.02	.03	1.3	.79	4.1	80	1.0	7.3	.09	.00	.00
4	.00	.00	.83	.51	.73	4.4	54	.64	5.7	.05	.00	.00
5	.00	.00	.46	1.0	20	4.9	36	.41	13	.02	.00	.00
6	.00	.00	.10	.91	13	5.8	25	.30	10	.01	.00	.00
7	.00	.00	.06	.59	2.4	5.5	18	.27	10	.00	.00	.00
8	.00	.00	.03	.41	1.1	4.6	14	.23	8.7	.00	.00	.00
9	.00	.00	.00	.32	124	3.9	12	.16	6.5	.00	.00	.00
10	.00	.00	.01	.29	309	3.4	9.4	.19	4.8	.00	.00	.00
11	.00	.00	.01	.21	133	3.0	7.1	.15	3.8	.00	.00	.00
12	.00	.00	.00	.16	63	2.7	6.4	.10	2.9	.00	.00	.00
13	.00	.00	.00	.13	37	2.6	6.1	.09	2.2	.00	.00	.00
14	.00	.00	.00	.10	25	2.5	7.3	.07	1.6	.00	11	.00
15	.00	.00	.00	.08	128	2.7	9.1	.12	237	.01	8.1	.00
16	.00	.00	.00	.08	92	81	8.6	.53	279	.04	4.2	.00
17	.00	.00	.00	.07	50	116	8.4	3.1	160	.18	2.3	.00
18	.00	.00	.00	.17	32	54	8.2	2.5	52	3.2	1.0	.00
19	.00	.01	.00	1.1	23	30	7.8	2.1	29	2.2	.46	73
20	.00	.01	.00	4.9	27	26	7.4	475	18	1.1	.23	63
21	.00	.00	.00	8.3	16	22	4.4	2210	12	.63	.06	22
22	.00	.00	.00	9.8	12	17	3.1	732	7.7	.58	.00	10
23	.00	.03	.00	5.5	10	1230	2.7	451	4.8	.27	.00	5.2
24	.00	.02	.00	3.8	8.7	607	2.3	362	3.1	.16	.00	3.1
25	.00	.02	.00	2.6	7.5	407	1.9	272	111	.08	.00	2.1
26	.00	.04	.00	1.8	6.5	841	1.5	182	13	.05	.00	1.4
27	.00	.05	.02	1.3	5.8	390	1.2	118	7.2	.02	.00	1.0
28	.00	.02	.01	1.3	5.3	280	1.0	79	4.3	.00	.00	.77
29	.01	.02	.00	1.1	---	184	1.0	48	2.9	.00	.00	.60
30	.00	.01	.00	.93	---	534	1.2	30	1.4	.00	.00	.45
31	.00	---	.02	.93	---	391	---	19	---	.00	.00	---
TOTAL	.01	.25	1.62	70.99	1154.48	5269.0	681.1	4992.16	1041.6	9.48	27.35	182.62
MEAN	.000	.008	.052	2.29	41.2	170	22.7	161	34.7	.31	.88	6.09
MAX	.01	.05	.83	15	309	1230	210	2210	279	3.2	11	73
MIN	.00	.00	.00	.07	.73	2.5	1.0	.07	1.4	.00	.00	.00
AC-FT	.02	.5	3.2	141	2290	10450	1350	9900	2070	19	54	362

CAL YR 1982	TOTAL	9308.40	MEAN	25.5	MAX	3480	MIN	.00	AC-FT 18460
WTR YR 1983	TOTAL	13430.66	MEAN	36.8	MAX	2210	MIN	.00	AC-FT 26640

08178620 LORENCE CREEK AT THOUSAND OAKS BOULEVARD, SAN ANTONIO, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°35'24", long 98°27'47", Bexar County, Hydrologic Unit 12310030l, on right bank 30 ft upstream from Thousand Oaks Boulevard and 4.2 mi upstream from mouth.

DRAINAGE AREA.--4.05 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Digital recorders (stage and rainfall), concrete control, and crest-stage gages. Gage is not referenced to National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 5.90 ft May 6, 1982 (discharge not determined); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 460 ft^3/s May 21 at 0945 hours (gage height, 2.73 ft), no other peak above base of 100 ft^3/s; no flow most of time.

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
MAR										
23...	0540	6.2	142	--	--	300	600	--	--	7.3
23...	0937	2.5	127	7.7	10.5	200	130	10.0	92	3.0
23...	1005	3.4	128	--	--	100	120	--	--	3.1
MAY										
20...	1447	4.2	163	--	--	--	--	--	--	--
20...	1454	5.6	175	--	--	--	--	--	--	--
20...	1502	6.1	169	--	--	--	--	--	--	6.4
20...	1509	5.8	151	--	--	--	--	--	--	--
20...	1517	5.3	142	--	--	--	--	--	--	6.4
20...	1524	5.1	131	--	--	--	--	--	--	--
20...	1532	4.8	125	--	--	--	--	--	--	6.3
20...	1539	4.2	121	--	--	--	--	--	--	--
20...	1630	2.8	112	--	--	70	720	--	--	--
21...	1040	150	128	7.8	18.0	75	120	8.5	90	6.2

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)
MAR										
23...	10000	40000	--	--	--	--	--	--	--	--
23...	6600	40000	56	14	21	1.0	1.8	.1	3.7	43
23...	2400	K60000	--	--	--	--	--	--	--	43
MAY										
20...	K60000	K140000	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	25000	K120000	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	K19000	K99000	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	11000	94000	--	--	--	--	--	--	--	--
21...	41000	K190000	56	7	20	1.4	2.2	.1	6.1	49

08178620 LORENCE CREEK AT THOUSAND OAKS BOULEVARD, SAN ANTONIO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
MAR										
23...	--	--	--	--	--	1000	50	.28	.120	.40
23...	12	2.2	<.10	9.6	77	114	37	.53	.070	.60
23...	--	--	--	--	--	102	34	.53	.070	.60
MAY										
20...	--	--	--	--	--	--	--	.44	.160	.60
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	.45	.150	.60
20...	--	--	--	--	--	--	--	.24	.260	.50
20...	--	--	--	--	--	--	--	.32	.180	.50
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	.24	.260	.50
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	972	420	.10	.300	.40
21...	11	3.5	<.10	9.7	84	154	10	.54	.060	.60

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
MAR									
23...	.52	.180	2.9	3.10	.90	.700	.080	33	8.8
23...	.56	.150	1.3	1.40	1.0	.220	.050	13	11
23...	--	.120	1.3	1.40	--	.210	--	13	--
MAY									
20...	--	.220	6.7	6.90	--	.500	--	29	--
20...	--	--	--	--	--	--	--	--	--
20...	--	.200	7.4	7.60	--	.800	--	26	--
20...	.55	.320	4.8	5.10	.90	.700	.060	26	7.4
20...	--	.240	5.2	5.40	--	.700	--	20	--
20...	--	--	--	--	--	--	--	--	--
20...	--	.280	14	14.0	--	.600	--	26	--
20...	--	--	--	--	--	--	--	--	--
20...	--	.340	3.7	4.00	--	.600	--	34	--
21...	--	.260	1.5	1.80	--	.500	--	15	11

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR							
23...	0540	5	<100	<1	<10	4	140
23...	0937	1	12	<1	<10	3	85
MAY							
20-20	1446	1	100	<1	<10	3	60
21...	1040	1	11	<1	<10	4	140

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
23...	2	10	.2	<1	<1	10
23...	4	7	.1	<1	<1	8
MAY						
20-20	4	10	<.1	1	<1	10
21...	3	9	<.1	1	<1	52

08178620 LORENCE CREEK AT THOUSAND OAKS BOULEVARD, SAN ANTONIO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)
MAR											
23...	0937	<.10	<1	<.10	<1.0	<.01	<.1	<.10	10	<.01	<.1
MAY											
20-20	1446	<.10	--	<.10	--	<.01	--	.10	--	<.01	--
21...	1040	<.10	--	<.10	--	<.01	--	<.10	--	<.01	--

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)
MAR											
23...	<.01	2.1	<.01	4.2	.21	<.01	.8	<.01	<.01	<.1	<.01
MAY											
20-20	.01	--	<.01	--	--	<.01	--	<.01	<.01	--	<.01
21...	<.01	--	<.01	--	.25	.01	--	<.01	<.01	--	<.01

DATE	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
MAR											
23...	<.01	.1	<.01	.2	<.01	<.1	<.01	<.01	<.1	<.01	<.01
MAY											
20-20	<.01	--	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01
21...	<.01	--	<.01	--	.01	--	.01	<.01	--	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR											
23...	<.01	<.1	<.01	<.10	<1	<10	<.01	.01	<.01	<.01	<.01
MAY											
20-20	<.01	--	<.01	<.10	<1	--	<.01	.04	<.01	<.01	<.01
21...	<.01	--	<.01	<.10	<1	--	<.01	--	--	--	--

08178640 WEST ELM CREEK AT SAN ANTONIO, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°37'23", long 98°26'29", Bexar County, Hydrologic Unit 12100301, at mid-channel, 1.8 mi upstream from mouth of East Elm Creek, 2.1 mi upstream from Farm Road 1604, and 7.0 mi north of San Antonio International Airport.

DRAINAGE AREA.--2.45 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Digital recorders (stage and rainfall) and crest-stage gages. Gage is not referenced to National Geodetic Vertical Datum 1929.

REMARKS.--Water-discharge records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft³/s Nov. 1, 1977 (gage height, 5.82 ft); maximum gage height, 6.88 ft May 6, 1982; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 480 ft³/s May 20 at 1455 hours and May 21 at 0915 hours (gage height, 4.90 ft), no other peak above base of 100 ft³/s; no flow most of time.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, pesticide, and bacteria analyses: May 1976 to current year. Water temperatures: May 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
FEB											
15...	0210	--	74	--	--	--	--	--	--	--	--
MAR											
23...	0322	--	79	--	--	500	800	--	--	4.4	4400
23...	0350	.50	161	--	--	200	860	--	--	4.9	7400
23...	0420	1.0	169	--	--	200	880	--	--	4.2	--
23...	0826	30	137	8.6	10.5	50	23	10.2	94	2.1	K10000
23...	0912	19	--	8.6	10.0	--	--	10.4	95	--	--
23...	0932	15	147	--	--	50	17	--	--	2.2	7000
23...	1402	.20	166	8.0	13.0	50	19	9.6	94	2.4	K6000
MAY											
20...	0007	--	74	--	--	--	--	--	--	--	K20000
20...	0014	--	71	--	--	130	1100	--	--	3.4	--
20...	0020	.02	72	--	--	130	860	--	--	8.2	--
20...	0026	.03	72	--	--	80	1300	--	--	7.4	--
20...	1354	20	65	--	--	200	680	--	--	7.7	20000
20...	1612	58	114	--	--	75	18	--	--	4.4	43000
21...	1135	39	153	7.7	18.5	55	10	8.7	--	3.2	25000
SEP											
18-18	1735	10	120	--	--	--	500	--	--	--	--
18...	1740	6.7	101	--	--	--	680	--	--	4.8	62000
18...	1810	10	112	--	--	--	580	--	--	4.6	86000
18...	1840	16	155	--	--	--	--	--	--	--	330000

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
FEB											
15...	--	--	--	--	--	--	--	--	--	--	--
MAR											
23...	11000	--	--	--	--	--	--	--	44	--	--
23...	K21000	--	--	--	--	--	--	--	--	--	--
23...	18000	--	--	--	--	--	--	--	--	--	--
23...	16000	64	15	24	.9	1.5	.0	2.7	49	12	2.8
23...	--	--	--	--	--	--	--	--	--	--	--
23...	28000	--	--	--	--	--	--	--	52	--	--
23...	K34000	79	21	30	1.1	1.6	.0	3.0	59	16	3.2
MAY											
20...	K52000	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	K140000	--	--	--	--	--	--	--	--	--	--
20...	K80000	--	--	--	--	--	--	--	--	--	--
21...	78000	72	8	27	1.1	2.1	.1	3.8	64	11	2.4
SEP											
18-18	--	48	12	18	.8	2.4	.2	3.0	36	18	2.3
18...	43000	--	--	--	--	--	--	--	--	--	--
18...	36000	--	--	--	--	--	--	--	--	--	--
18...	126000	--	--	--	--	--	--	--	--	--	--

08178640 WEST ELM CREEK AT SAN ANTONIO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	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)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
FEB											
15...	--	--	--	--	--	--	.55	--	.040	--	.59
MAR											
23...	--	--	--	1400	59	.30	--	.100	--	.40	.72
23...	--	--	--	1160	52	1.2	--	.060	--	1.3	1.5
23...	--	--	--	920	39	1.3	--	.060	--	1.4	--
23...	<.10	6.5	80	20	9	.26	--	.040	--	.30	.25
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	14	12	.17	--	.030	--	.20	--
23...	<.10	8.2	98	16	11	.17	--	.030	--	.20	--
MAY											
20...	--	--	--	--	--	--	--	--	--	--	.51
20...	--	--	--	1570	228	--	--	--	--	--	--
20...	--	--	--	1760	480	--	--	--	--	--	--
20...	--	--	--	1620	532	--	--	--	--	--	--
20...	--	--	--	1390	564	.27	--	.030	--	.30	.33
20...	--	--	--	34	<1	.37	--	.030	--	.40	--
21...	<.10	10	96	13	<1	.27	--	.030	--	.30	--
SEP											
18-18	<.10	6.6	73	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	.45	--	.050	--	.50	.49
18...	--	--	--	--	--	.56	--	.040	--	.60	--
18...	--	--	--	--	--	--	--	--	--	--	--

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
FEB										
15...	--	.170	--	.53	--	.70	--	.030	--	5.3
MAR										
23...	.140	--	7.0	--	7.10	.90	.500	.030	34	5.0
23...	.120	--	3.3	--	3.40	1.2	.600	.050	40	7.0
23...	.120	--	3.7	--	3.80	--	.600	--	33	--
23...	.090	--	1.0	--	1.10	.80	.080	.010	11	11
23...	--	--	--	--	--	--	--	--	--	--
23...	.100	--	.80	--	.90	--	.070	--	12	--
23...	.130	--	1.3	--	1.40	--	.060	--	13	--
MAY										
20...	--	.460	--	--	.50	--	.200	.010	37	--
20...	--	--	--	--	--	--	--	--	33	--
20...	--	--	--	--	--	--	--	--	37	--
20...	--	--	--	--	--	--	--	--	--	--
20...	.120	--	.98	--	1.10	1.0	.200	.030	39	4.6
20...	.150	--	1.3	--	1.40	--	.120	--	15	--
21...	.100	--	1.1	--	1.20	--	.070	--	15	13
SEP										
18-18	--	--	--	--	--	--	--	--	--	--
18...	.050	--	3.9	--	3.90	.70	.300	.030	30	4.2
18...	.070	--	3.2	--	3.30	--	.300	--	34	--
18...	--	--	--	--	--	--	--	--	--	--

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)
MAR							
23...	0322	1	<100	<1	<10	4	60
23...	0826	1	10	<1	<10	1	68
MAY							
20...	0007	1	100	<1	<10	4	60
20...	1354	<1	<100	<1	<10	3	100
21...	1135	<1	<100	5	<10	6	100
SEP							
18-18	1735	1	13	3	10	2	120

08178640 WEST ELM CREEK AT SAN ANTONIO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
23...	2	10	<.1	<1	<1	30
23...	1	3	<.1	<1	<1	8
MAY						
20...	<1	<10	<.1	<1	<1	10
20...	2	10	<.1	<1	<1	10
21...	12	<10	<.1	<1	<1	260
SEP						
18-18	5	8	<.1	<1	<1	40

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CHLOR-DANE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
MAR											
23...	0826	<.10	<1	<.10	<1.0	<.01	<.1	<.10	2.0	<.01	<.1
MAY											
20...	0007	<.10	--	<.10	--	<.01	--	.10	--	<.01	--
20...	1354	<.10	--	<.10	--	<.01	--	.10	--	<.01	--
SEP											
18-18	1735	<.10	--	<.10	--	<.01	--	<.10	--	<.01	--

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)
MAR											
23...	<.01	.3	<.01	<.1	.46	<.01	.1	<.01	<.01	<.1	<.01
MAY											
20...	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01	--	<.01
20...	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01	--	<.01
SEP											
18-18	<.01	--	<.01	--	.35	<.01	--	<.01	<.01	--	<.01

DATE	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
MAR											
23...	<.01	<.1	<.01	.1	<.01	<.1	<.01	<.01	<.1	<.01	<.01
MAY											
20...	<.01	--	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01
20...	<.01	--	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01
SEP											
18-18	<.01	--	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR											
23...	<.01	<.1	<.01	<.10	<1	<10	<.01	.13	<.01	<.01	<.01
MAY											
20...	<.01	--	<.01	<.10	<1	--	<.01	.03	<.01	<.01	<.01
20...	<.01	--	<.01	<.10	<1	--	<.01	.03	<.01	<.01	<.01
SEP											
18-18	<.01	--	<.01	<.10	<1	--	<.01	<.01	<.01	<.01	<.01

08178645 EAST ELM CREEK AT SAN ANTONIO, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°37'04", long 98°25'41", Bexar County, Hydrologic Unit 12100301, at mid-channel, 2.1 mi upstream from West Elm Creek, 2.4 mi upstream from Farm Road 1604, and 6.9 mi north of San Antonio International Airport.

DRAINAGE AREA.--2.33 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Digital recorders (stage and rainfall) and crest-stage gages. Gage is not referenced to National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480 ft^3/s May 6, 1982 (gage height, 7.96 ft); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 173 ft^3/s May 21 at 0955 hours (gage height, 4.93 ft); no other peak above base of 100 ft^3/s; no flow most of time.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, pesticide, and bacteria analyses: May 1976 to current year. Water temperatures: May 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
MAR										
23...	1215	3.3	104	7.5	11.5	55	18	8.3	78	2.1
MAY										
20...	1723	<1.0	81	--	--	70	15	--	--	4.4
20...	1750	12	81	--	--	75	13	--	--	4.2
20...	2015	<2.0	97	7.6	21.0	45	5.8	--	--	3.6
21...	1215	38	114	7.8	19.0	55	5.4	8.8	--	3.5

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)
MAR										
23...	K1000	K200	49	3	18	.9	1.1	.0	3.6	46
MAY										
20...	26000	K100000	--	--	--	--	--	--	--	--
20...	18000	91000	--	--	--	--	--	--	--	--
20...	12000	54000	--	--	--	--	--	--	--	--
21...	10000	29000	52	2	19	1.0	1.7	.1	4.1	50

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
MAR										
23...	5.9	1.8	<.10	11	70	8	<1	.07	.030	.10
MAY										
20...	--	--	--	--	--	37	38	.17	.030	.20
20...	--	--	--	--	--	11	<0	.17	.030	.20
20...	--	--	--	--	--	32	<1	.18	.020	.20
21...	6.3	1.7	<.10	11	75	32	<1	.17	.030	.20

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
MAR									
23...	--	.190	.61	.80	--	.040	--	12	--
MAY									
20...	--	.150	1.4	1.50	--	.110	--	14	11
20...	--	.120	1.2	1.30	--	.080	--	12	--
20...	--	.070	1.2	1.30	--	.060	--	13	--
21...	.21	.140	1.3	1.40	1.2	.050	.010	13	11

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR							
23...	1215	<1	9	<1	<10	4	100
MAY							
20...	1723	<1	<100	<1	<10	2	50
21...	1215	1	<100	<1	<10	1	40

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
23...	3	5	<.1	<1	<1	5
MAY						
20...	1	<10	<.1	<1	<1	30
21...	2	<10	<.1	<1	<1	<10

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CHLOR-DANE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
MAR											
23...	1215	<.10	<1	<.10	<1.0	<.01	<.1	<.10	2.0	<.01	<.1
MAY											
20...	1723	<.10	--	<.10	--	<.01	--	<.10	--	<.01	--

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)
MAR											
23...	<.01	1.4	<.01	<.1	<.01	<.01	.2	<.01	<.01	<.1	<.01
MAY											
20...	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01	--	<.01

DATE	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
MAR											
23...	<.01	<.1	<.01	.1	<.01	<.1	<.01	<.01	<.1	<.01	<.01
MAY											
20...	<.01	--	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR											
23...	<.01	<.1	<.01	<.10	<1	<10	<.01	<.01	<.01	<.01	<.01
MAY											
20...	<.01	--	<.01	<.10	<1	--	<.01	<.01	<.01	<.01	<.01

08178650 ELM CREEK RESERVOIR SITE 11 AT SAN ANTONIO, TX

LOCATION.--Lat 29°36'11", long 98°25'50, Bexar County, Hydrologic Unit 12100301, located on left bank on upstream side of dam, 2.4 mi east of U.S. Highway 281, 0.7 mi upstream from Highway 1604, and 8.0 mi upstream from mouth.

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: March to September 1983.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
MAR										
23...	1500	117	8.0	12.0	50	130	9.2	88	3.0	K13000
MAY										
20...	1820	105	--	--	60	140	--	--	6.4	60000
21...	1248	116	--	--	45	41	--	--	5.2	K22000

DATE	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)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)
MAR										
23...	K42000	53	7	20	.8	1.3	.0	3.4	46	10
MAY										
20...	K170000	45	5	17	.7	2.5	.2	7.5	40	13
21...	59000	51	4	19	.8	2.0	.1	4.2	47	11

DATE	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)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
MAR									
23...	1.9	<.10	5.8	71	123	34	.43	.070	.50
MAY									
20...	5.0	<.10	5.4	75	174	166	.34	.060	.40
21...	1.8	<.10	5.9	73	100	91	.35	.050	.40

DATE	NITROGEN, NO2+NO3 DISSOLVED (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, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
MAR									
23...	--	.230	1.2	1.40	--	.170	--	14	--
MAY									
20...	.43	.130	2.1	2.20	.90	.270	.070	16	10
21...	.38	.160	1.6	1.80	2.0	.160	.050	17	9.5

08178650 ELM CREEK RESERVOIR SITE 11 AT SAN ANTONIO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR							
23...	1500	1	7	<1	10	4	87
MAY							
20...	1820	1	<100	<1	<10	3	70
21...	1248	1	<100	<1	<10	2	70

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
23...	2	6	<.1	<1	<1	10
MAY						
20...	2	<10	<.1	<1	<1	10
21...	2	10	<.1	<1	<1	10

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CHLOR-DANE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
MAR											
23...	1500	<.10	<1	<.10	<1.0	<.01	<.1	<.10	4.0	<.01	<.1
MAY											
20...	1820	<.10	--	<.10	--	<.01	--	<.10	--	<.01	--
21...	1248	<.10	--	<.10	--	<.01	--	<.10	--	<.01	--

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)
MAR											
23...	<.01	.4	<.01	<.1	1.5	<.01	.2	<.01	<.01	<.1	<.01
MAY											
20...	<.01	--	<.01	--	.28	<.01	--	<.01	<.01	--	<.01
21...	<.01	--	<.01	--	.14	<.01	--	<.01	<.01	--	<.01

DATE	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
MAR											
23...	<.01	<.1	<.01	.1	<.01	<.1	<.01	<.01	<.1	<.01	<.01
MAY											
20...	<.01	--	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01
21...	<.01	--	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR											
23...	<.01	<.1	<.01	<.10	<1	<10	<.01	.41	<.01	<.01	<.01
MAY											
20...	<.01	--	<.01	<.10	<1	--	<.01	.05	<.01	<.01	<.01
21...	<.01	--	<.01	<.10	<1	--	<.01	.02	<.01	<.01	<.01

GUADALUPE RIVER BASIN

08178700 SALADO CREEK (UPPER STATION) AT SAN ANTONIO, TX

LOCATION.-Lat 29°30'57", long 98°25'51", Bexar County, Hydrologic Unit 12100301, on right bank at downstream side of eastbound bridge on Interstate Highway 410 in San Antonio, 1.0 mi west of Northeast School, 1.1 mi upstream from Perrin-Beitel Creek, and 2.7 mi east of San Antonio International Airport.

DRAINAGE AREA.--137 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1960 to current year.

GAGE.--Water-stage recorder with concrete control. Datum of gage is 684.60 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. No known diversion above station. Flow is affected at times by discharge from the flood-detention pools of eleven floodwater-retarding structures with a combined detention capacity of 26,770 acre-ft. These structures control runoff from 74.6 mi^2 above this station. Recording rain gage located at station with four additional recording rain gages located in watershed.

AVERAGE DISCHARGE.--23 years, 9.34 ft^3/s (6,770 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft^3/s May 12, 1972 (gage height, 15.22 ft), from rating curve extended above 8,000 ft^3/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1853, 23 to 24 ft in October 1913. Flood in September 1921 reached a stage of 18 ft, and flood of Sept. 27, 1946, reached a stage of 18.2 ft, and are the second and third highest since 1899.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 473 ft^3/s May 21 at 1000 hours (gage height, 4.73 ft), no other peak above base of 250 ft^3/s; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.7	6.6	2.6	.11	1.8	1.2	2.0	.00	.00	.00
2	.00	5.5	.14	.36	.50	.11	1.6	1.1	1.6	.00	.00	.00
3	.00	3.7	.02	1.4	.15	.09	1.6	.99	1.4	.00	.00	.00
4	.00	.03	.00	4.0	2.8	.24	2.0	.17	.20	.08	.14	.00
5	.00	.00	.00	3.8	2.2	.51	2.6	.09	.44	.59	.52	.00
6	.00	.00	.00	1.5	.61	.40	6.6	.02	4.7	.11	.16	.00
7	.00	.00	.00	1.3	2.1	.32	5.8	.00	5.6	.17	.04	.00
8	.00	.00	.00	1.3	4.8	.18	1.3	.00	.27	.04	5.6	.14
9	.01	.08	.00	1.3	1.3	.16	1.5	.07	.10	.00	3.6	.31
10	5.2	2.8	2.8	.88	.89	.14	1.5	.17	.05	.00	.13	.02
11	.23	2.2	1.3	.08	.16	.14	1.5	1.6	1.3	.00	.05	.00
12	1.1	.06	.91	.04	1.3	.14	1.5	.18	1.5	.04	.02	.00
13	.34	.00	.77	.02	1.7	.13	1.5	.11	.71	.16	.00	.00
14	.07	.00	.77	.01	.11	.13	1.5	.08	.14	.41	.00	.00
15	.00	.00	.77	.00	1.6	2.6	1.3	.14	.04	.26	.00	.00
16	.00	.00	.77	.00	1.5	2.3	1.3	.30	.00	.81	.00	.00
17	.00	.00	.77	.25	2.6	1.0	1.0	.11	.00	1.1	.00	.00
18	.00	.00	.84	4.9	1.4	.23	.53	.08	1.3	2.7	.00	33
19	.00	.00	.93	3.9	.26	.44	1.3	1.9	1.5	.78	.00	26
20	.00	.00	.93	2.8	.16	3.0	.64	17	1.3	.13	.00	2.1
21	.00	.00	.90	4.4	.18	2.1	.16	130	.14	.05	.00	1.4
22	.00	.00	.13	2.5	.16	1.7	.77	23	.07	.00	.00	.23
23	.00	1.1	.08	2.3	.16	49	1.1	8.6	.06	.00	.00	.05
24	.00	.25	.91	1.9	.16	14	1.1	5.1	.03	.00	.00	.02
25	.00	.09	.93	.19	.16	8.7	1.1	1.7	1.4	.00	.00	.00
26	.00	15	.99	.13	.16	42	.89	.35	1.9	.00	.00	.00
27	.00	9.3	5.1	.12	.14	11	.14	1.3	1.2	.00	.00	.00
28	.21	.09	.18	.24	.13	8.1	.09	1.5	.11	.00	.00	.00
29	.65	.17	.10	1.7	---	7.5	.07	1.5	.02	.00	.00	.00
30	.01	1.4	.07	2.0	---	6.4	.95	1.5	.00	.00	.00	.00
31	.00	---	1.9	2.0	---	2.2	---	1.8	---	.00	.00	---
TOTAL	7.82	41.77	24.71	51.92	29.99	165.07	44.74	201.66	29.08	7.43	10.26	63.27
MEAN	.25	1.39	.80	1.67	1.07	5.32	1.49	6.51	.97	.24	.33	2.11
MAX	5.2	15	5.1	6.6	4.8	49	6.6	130	5.6	2.7	5.6	33
MIN	.00	.00	.00	.00	.11	.09	.07	.00	.00	.00	.00	.00
AC-FT	16	83	49	103	59	327	89	400	58	15	20	125

CAL YR 1982 TOTAL 2415.86 MEAN 6.62 MAX 1800 MIN .00 AC-FT 4790
WTR YR 1983 TOTAL 677.72 MEAN 1.86 MAX 130 MIN .00 AC-FT 1340

08178700 SALADO CREEK (UPPER STATION) AT SAN ANTONIO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: November 1968 to current year. Sediment analyses: November 1971 to September 1973. Water temperatures: November 1968 to current year. Bacteria analyses: May 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
DEC												
14...	1320	.77	737	8.1	11.5	15	18	11.9	112	3.6	K240	K68
MAR												
16...	1056	2.0	707	7.8	17.0	15	26	9.1	98	16	440	210
MAY												
21...	1140	236	190	7.9	18.5	35	2600	7.8	85	10	34000	180000
21...	1415	339	242	7.8	22.0	30	1100	7.6	90	6.8	40000	200000
JUN												
28...	1300	.05	620	7.6	28.0	5	1.6	7.8	103	2.9	140	150

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
DEC												
14...	290	68	97	11	31	.8	29	220	110	32	.60	11
MAR												
16...	280	30	92	12	25	.7	22	250	78	27	.60	13
MAY												
21...	76	23	28	1.4	10	.5	7.3	53	27	17	.40	6.4
21...	100	33	38	2.0	12	.5	7.6	70	28	13	.30	7.4
JUN												
28...	180	33	55	11	33	1.1	30	150	99	33	.60	8.5

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DEC											
14...	454	14	10	.75	.050	.80	.370	.43	.80	.100	5.4
MAR											
16...	419	51	26	--	<.020	<.10	.060	1.5	1.60	.550	11
MAY											
21...	129	4030	636	.47	.030	.50	.240	1.8	2.00	1.50	41
21...	151	1320	300	.46	.040	.50	.240	1.5	1.70	.800	22
JUN											
28...	360	15	4	--	<.020	.10	.080	1.0	1.10	.060	4.6

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							
21...	1140	4	<100	<1	<10	12	30
21...	1415	2	<100	<1	<10	5	470
JUN							
28...	1300	3	79	2	<10	<1	12

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						
21...	3	10	<.1	<1	<1	<10
21...	3	30	<.1	<1	<1	70
JUN						
28...	1	31	<.1	1	<1	14

08178700 SALADO CREEK (UPPER STATION) AT SAN ANTONIO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
MAY 21...	1140	<.10	<.10	.24	.10	<.01	<.01	<.01	.31	.02
JUN 28...	1300	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
MAY 21...	<.01	<.01	<.01	.01	<.01	<.01	.01	<.01	<.01	<.01
JUN 28...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 21...	<.01	<.01	<.10	<1	<.01	.34	<.01	.01	<.01
JUN 28...	<.01	<.01	<.10	<1	<.01	.01	<.01	<.01	<.01

08178880 MEDINA RIVER AT BANDERA, TX

LOCATION.--Lat 29°43'25", long 99°04'11", Bandera County, Hydrologic Unit 12100302, on left bank 40 ft downstream from centerline of State Highway 173, 1.9 mi upstream from Bandera Creek, and 5.6 mi downstream from Indian Creek.

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1982 to September 1983.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 17...	1209	38	535	8.1	11.0	<1	.70	9.6	89	.4	K14	K19
APR 18...	1105	46	565	8.1	18.0	<1	.40	8.6	94	1.4	K10	K33
MAY 21...	1235	150	433	8.0	21.0	5	68	8.4	--	2.1	6000	16000
AUG 29...	1245	24	587	7.8	28.5	<1	7.3	7.3	97	.5	44	20

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN 17...	260	83	74	19	6.9	.2	1.4	180	88	11	.30	8.1
APR 18...	260	72	75	18	6.8	.2	1.2	190	91	11	.30	9.2
MAY 21...	220	83	66	14	5.8	.2	1.6	140	76	11	.20	9.2
AUG 29...	290	108	82	20	8.3	.2	1.4	180	100	13	.30	14

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 17...	317	<1	<1	--	<.020	.20	<.060	--	.40	<.010	1.4
APR 18...	326	<1	<1	--	<.020	.20	.420	.28	.70	.020	1.8
MAY 21...	268	77	13	.28	.020	.30	.120	.78	.90	.050	4.6
AUG 29...	347	18	9	--	<.020	.20	.080	.32	.40	.010	1.3

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 17...	1209	<1	30	<1	<10	<1	5
MAY 21...	1235	<1	<100	<1	<10	1	30
AUG 29...	1245	<1	37	<1	<10	<1	4

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 17...	1	2	<.1	<1	<1	4
MAY 21...	2	10	<.1	1	<1	<10
AUG 29...	1	4	<.1	<1	<1	5

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 17...	1209	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01
AUG 29...	1245	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
JAN 17...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
AUG 29...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 17...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01
AUG 29...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01

08179500 MEDINA LAKE NEAR SAN ANTONIO, TX

LOCATION.--Lat 29°32'24", long 98°56'01", Medina County, Hydrologic Unit 12100302, at gate-operating platform, 576 ft from left end of Medina Dam on Medina River, 4.2 mi upstream from Medina diversion dam, 13 mi north of Castroville, 28 mi west of San Antonio, and 70.4 mi upstream from mouth. Water-quality sampling site at the center of low-water bridge 0.6 mi downstream.

DRAINAGE AREA.--634 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1913 to current year. Prior to October 1965, monthend contents only.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Nonrecording gage read once daily if stage changing materially, otherwise intermittently. Datum of gage is 7.80 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a gravity-type concrete dam, 1,580 ft long. The dam was completed and storage began May 7, 1913. The uncontrolled emergency spillway is a cut through natural rock 880 ft long, with a 3-foot-wide cutoff wall, located near right end of dam. The dam and lake are owned by the Bexar-Medina-Atascosa Counties Water Improvement District No. 1, which has a permit from the Texas Department of Water Resources to irrigate 150,000 acres annually. An undetermined amount of water from the lake enters the Edwards and associated limestones in the Balcones Fault Zone, part of which is above and part below the dam. Water is released downstream to Medina Diversion Reservoir where it is diverted into Medina Canal by the Water District. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	1,084.0	-
Crest of spillway	1,072.0	254,000
Water-supply outlet pipes (invert)	966.5	4,780
Lowest gated outlet (invert)	920.0	0

COOPERATION.--Capacity table, based on survey made prior to June 1912, and gage-height record were furnished by the Bexar-Medina-Atascosa Counties Water Improvement District No. 1.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents observed, 288,800 acre-ft Sept. 16, 1919 (gage height, 1,078.0 ft); minimum observed since lake first filled, 780 acre-ft about Apr. 11, 1948 (gage height, 944.0 ft).

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 206,100 acre-ft Oct. 1 (gage height, 1,062.8 ft); minimum, 158,400 acre-ft Sept. 29 (gage height, 1,052.0 ft).

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

1,052.0	158,400	1,060.0	192,000
1,054.0	166,800	1,062.0	202,100
1,056.0	175,200	1,063.0	175,200
1,058.0	183,600		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	206100	198600	193500	190300	187400	184900	185300	180200	176000	181900	175600	168000
2	206100	198600	193500	190300	187000	184900	185300	179800	175600	181500	176900	167200
3	205600	198600	193500	189900	187000	184900	185300	179800	175200	181100	175200	166800
4	205600	198100	193500	189900	187000	184900	185300	179000	175600	181100	174800	166300
5	205100	198100	193000	189900	187000	185300	184900	178500	175200	180200	174300	165500
6	205100	198100	193000	189500	187000	185300	184900	178100	176400	180200	174300	165500
7	204600	197500	193000	189500	186500	185300	184900	177700	177300	180200	174300	165100
8	204600	197500	193000	189500	186500	185300	184400	177300	176900	179800	174300	164700
9	204100	197000	193000	189500	186500	185300	184400	176900	176900	179800	174300	164200
10	204100	197000	192500	189100	186500	184900	184400	176400	176900	179800	173900	164200
11	204100	197000	192500	189100	186100	184900	184400	176000	176900	178500	173900	164200
12	203600	196500	192500	188600	186100	184900	184000	176400	176900	178500	173500	163400
13	203600	196000	192500	188600	186100	184900	184000	175600	176400	178500	173900	163000
14	203100	196000	192500	188600	186100	184900	183600	175600	176400	177700	173500	163000
15	203100	196000	192000	188600	186100	184400	183600	174800	177300	177700	173500	162600
16	203100	195500	192000	188600	186100	184400	183200	174800	179800	177700	173100	162600
17	202600	195500	192000	188200	186100	184400	183200	173900	181100	178100	173100	162100
18	202100	195000	192000	188200	185700	184400	182700	173500	181900	177700	173100	161700
19	202100	195000	192000	188200	185700	184400	182300	173900	181900	177700	172700	161700
20	202100	194500	191600	188200	185700	184000	182300	174300	181900	177700	171800	161300
21	201600	194500	191600	188200	185700	184000	182300	175600	181900	177300	171800	160900
22	201600	194000	191600	187800	185700	184000	181900	176900	182700	177300	171800	160900
23	201100	194000	191200	187800	185700	184000	181900	176900	182300	177300	171000	160500
24	200600	194000	191200	187800	185700	184400	181500	176900	181900	176900	171000	160000
25	200600	194000	191200	187800	185300	184900	181500	176400	182700	176900	170100	159600
26	200100	194000	191200	187800	185300	184900	181500	176400	182700	176900	169700	159200
27	199600	194000	191200	187800	185300	185300	181100	176400	182300	176900	169300	158800
28	199100	194000	190700	187800	185300	185300	181100	176900	183200	176400	168900	158800
29	199100	194000	190700	187400	---	185300	180600	176900	181900	176000	168900	158400
30	198600	193500	190300	187400	---	185300	180600	176400	181900	176000	168500	158400
31	198600	---	190300	187400	---	185300	---	176000	---	176000	168000	---
MAX	206100	198600	193500	190300	187400	185300	185300	180200	183200	181900	176900	168000
MIN	198600	193500	190300	187400	185300	184000	180600	173500	175200	176000	168000	158400
(†)	1061.3	1060.3	1059.6	1058.9	1058.4	1058.4	1057.3	1056.8	1057.6	1056.2	1054.3	1052.0
(±)	-8000	-5100	-3200	-2900	-2100	0	-4700	-4600	+5900	-5900	-8000	-9600

CAL YR 1982 MAX 252900 MIN 190300 ± -63100
WTR YR 1983 MAX 206100 MIN 158400 ± -48200

† Elevation, in feet, at end of month.
± Change in contents in acre-feet.

08179500 MEDINA LAKE NEAR SAN ANTONIO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	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)
APR 18...	1220	408	17.0	200	51	54	16	7.6

DATE	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)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
APR 18...	.2	1.7	150	50	17	.20	9.7	246

08180000 MEDINA CANAL NEAR RIOMEDINA, TX

LOCATION.--Lat 29°30'19", long 98°54'11", Medina County, Hydrologic Unit 12100302, in center of canal, 54 ft upstream from center pier of double-barrel flume, 350 ft downstream from county highway bridge, 1,900 ft downstream from head of canal and diversion dam, 4.6 mi downstream from Medina Dam, 4.7 mi north of Riomedina, and 25 mi northwest of San Antonio.

PERIOD OF RECORD.--March 1922 to May 1934, July 1957 to current year.

REVISED RECORDS.--WSP 568: 1922. WSP 1712: 1922(M), 1924, 1926.

GAGE.--Water-stage recorder. Altitude of gage is 910 ft, from topographic map.

REMARKS.--Records good. Station is above all diversions from canal. Canal diverts from right end of Medina Diversion Dam 1,900 ft upstream from gage for irrigation downstream near Lacoste and Natalia. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years (water years 1923-33, 1958-83), 41.8 ft^3/s (30,280 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 216 ft^3/s May 6, 1971; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	40	23	3.6	21	22	20	125	80	126	84	112
2	83	47	22	3.4	21	22	20	126	101	118	97	108
3	82	49	22	3.4	21	22	20	128	125	134	112	95
4	81	27	22	3.3	21	22	23	134	129	142	37	89
5	80	21	21	3.4	20	22	27	136	56	142	8.4	92
6	81	29	22	3.4	20	22	25	140	1.1	147	.00	101
7	82	30	22	3.3	20	22	25	143	.77	150	.00	113
8	78	33	22	3.3	20	27	28	138	.64	150	12	100
9	74	39	18	3.3	20	27	35	136	.56	149	7.2	97
10	75	39	6.3	16	20	27	35	136	.50	149	21	99
11	32	39	.91	25	20	27	38	135	.44	143	38	97
12	5.8	39	.32	22	21	27	44	124	.37	127	35	89
13	5.9	39	.03	17	21	26	47	121	42	111	31	80
14	5.9	38	.00	19	21	27	50	130	66	57	30	79
15	5.9	38	7.9	22	21	27	54	133	50	37	38	84
16	5.9	38	15	22	21	24	55	125	46	32	47	91
17	5.7	38	15	22	21	18	53	115	36	32	45	88
18	5.7	38	15	10	21	18	56	87	41	22	43	80
19	.00	38	15	3.1	21	18	66	106	41	7.2	42	45
20	.00	38	15	3.1	21	18	81	46	86	.00	55	29
21	37	38	15	3.0	21	20	90	5.2	119	15	55	16
22	68	38	15	2.7	21	25	96	5.3	138	41	84	24
23	65	38	15	2.5	21	9.0	96	5.3	137	40	102	38
24	61	16	15	2.3	21	.00	97	15	136	39	103	37
25	50	.00	15	5.0	21	.00	100	26	129	38	110	38
26	43	.08	15	23	21	.03	109	27	122	37	116	47
27	39	.00	9.0	23	22	.00	111	36	106	51	114	42
28	36	.00	3.8	22	22	.00	117	47	100	66	113	42
29	36	.00	3.8	22	---	.00	121	46	127	79	113	53
30	35	13	3.5	22	---	7.0	124	45	151	89	113	64
31	35	---	3.3	22	---	19	---	58	---	86	112	---
TOTAL	1377.80	880.08	397.86	361.1	583	545.03	1863	2779.8	2168.38	2556.20	1917.60	2169
MEAN	44.4	29.3	12.8	11.6	20.8	17.6	62.1	89.7	72.3	82.5	61.9	72.3
MAX	84	49	23	25	22	27	124	143	151	150	116	113
MIN	.00	.00	.00	2.3	20	.00	20	5.2	.37	.00	.00	16
AC-FT	2730	1750	789	716	1160	1080	3700	5510	4300	5070	3800	4300

CAL YR 1982	TOTAL 23398.93	MEAN 64.1	MAX 185	MIN .00	AC-FT 46410		
WTR YR 1983	TOTAL 17598.85	MEAN 48.2	MAX 151	MIN .00	AC-FT 34910		

08181400 HELOTES CREEK AT HELOTES, TX

LOCATION.--Lat 29°34'42", long 98°41'29", Bexar County, Hydrologic Unit 12100302, 42 ft left of and 44 ft downstream from centerline of bridge on State Highway 16, 0.1 mi northwest of Helotes, and 8.6 mi upstream from mouth.

DRAINAGE AREA.--15.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1968 to current year.

REVISED RECORDS.--WRD TX-73-1: 1972(M).

GAGE.--Water-stage recorder. Datum of gage is 1,014.82 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. An undetermined amount of flow is diverted for domestic use above the station, and some flow enters the Edwards and associated limestones through the Balcones Fault Zone in the vicinity of the gage. Recording rain gage located at station, with two additional recording rain gages located in the watershed.

AVERAGE DISCHARGE.--15 years, 4.15 ft^3/s (3.76 in/yr), 3,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,680 ft^3/s July 16, 1973 (gage height, 10.8 ft, from floodmarks), from rating curve extended above 5,000 ft^3/s; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1923, 13.7 ft in 1927, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15 ft^3/s July 17 at 0030 hours (gage height, 1.81 ft), no peak above base of 140 ft^3/s; no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.07	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.30	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.37
10	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.07	.00	.00	.00	.08	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.47	.00	.00
18	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.49	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.75	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.73	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.14	.00	.00	.00	.37	.00	.00	.00	.00	.00	.00
27	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.08	.17	.00	.10	.09	1.10	.00	1.29	.08	.47	.38	.37
MEAN	.003	.006	.000	.003	.003	.035	.000	.042	.003	.015	.012	.012
MAX	.08	.14	.00	.07	.07	.73	.00	.75	.08	.47	.30	.37
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.000	.002	.000	.003	.000	.001	.001	.001
IN.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.2	.3	.00	.2	.2	2.2	.00	2.6	.2	.9	.8	.7

CAL YR 1982	TOTAL	364.14	MEAN	1.00	MAX	76	MIN	.00	CFSM	.07	IN	.90	AC-FT	722
WTR YR 1983	TOTAL	4.13	MEAN	.011	MAX	.75	MIN	.00	CFSM	.001	IN	.01	AC-FT	8.2

08181400 HELOTES CREEK AT HELOTES, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: May 1969 to current year. Sediment analyses: May 1972 to September 1973. Water temperatures: May 1969 to current year. Bacteria analyses: April 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
AUG 08...	1530	93	7.8	27.0	55	6.5	6.0	77	15	K55000	K250000

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)
AUG 08...	12	8	.46	.040	.50	.150	2.0	2.10	.300	12

08183900 CIBOLO CREEK NEAR BOERNE, TX

LOCATION.--Lat 29°46'26", long 98°41'50", Kendall County, Hydrologic Unit 12100304, on left bank 0.6 mi upstream from Southern Pacific Lines bridge, 0.9 mi downstream from Menger Creek, and 2.5 mi southeast of Boerne.

DRAINAGE AREA.--68.4 mi^2.

PERIOD OF RECORD.--March 1962 to current year.

REVISED RECORDS.--WRD TX-73-1: 1964-65, 1966(P), 1968-72(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,339.61 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good, except those for period of no gage-height record, which are poor. No know diversion above station. Flow is affected at times by discharge from the flood-detention pools of four floodwater-retarding structures with a combined detention-capacity of 8,850 acre-ft. These structure controls runoff from 34.0 mi^2. Several observation of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 28.4 ft^3/s (5.64 in/yr), 20,580 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,400 ft^3/s Sept. 27, 1964 (gage height, 19.15 ft, from floodmark), from rating curve extended above 2,500 ft^3/s on basis of slope-area measurement at 12,000 ft^3/s and contracted-opening measurement of 36,400 ft^3/s; no flow at times in 1962-64, 1966-67, and 1971. Maximum stage since at least 1892, that of Sept. 27, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.-- Second highest flood in 1952 reached a stage of 16.3 ft (discharge, 25,600 ft^3/s), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,480 ft^3/s May 20 at 1400 hours (gage height, 4.97 ft, from floodmark), no other peak above base of 900 ft^3/s; minimum daily, 0.60 ft^3/s Nov. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.86	1.4	2.5	9.1	5.7	5.5	6.8	5.5	17	18	7.8	2.4
2	1.1	3.0	2.4	7.0	5.3	5.7	7.0	6.1	16	16	7.1	2.3
3	1.1	5.0	2.3	6.3	5.4	5.9	7.4	6.3	15	14	6.4	2.1
4	.90	.75	2.2	6.2	5.7	33	7.0	5.7	14	13	6.4	2.2
5	.82	.60	2.3	6.1	8.4	11	7.1	4.8	14	12	14	2.0
6	1.2	.71	2.3	6.2	7.5	7.9	7.1	4.1	25	12	12	1.7
7	2.0	.76	2.5	6.2	6.2	6.5	7.2	4.0	28	14	13	1.7
8	2.1	.79	2.7	6.5	6.3	6.2	7.2	4.0	21	13	23	3.3
9	1.3	.80	2.4	6.4	7.2	6.0	7.3	3.7	18	13	11	7.5
10	3.1	.74	6.5	6.3	6.9	6.0	7.3	4.6	15	12	8.6	5.7
11	2.0	.82	6.8	5.9	6.3	6.9	7.4	5.3	13	11	7.4	3.4
12	2.0	.63	7.1	5.5	5.8	6.0	7.5	4.8	12	11	8.0	3.1
13	2.1	.65	7.7	5.5	5.8	6.0	7.4	4.3	11	11	9.9	2.8
14	1.8	.71	7.5	6.0	6.3	6.4	7.4	4.2	27	14	7.6	2.5
15	1.6	.85	7.3	5.9	24	11	7.4	10	98	35	7.8	2.6
16	1.5	.86	7.2	5.8	7.8	9.4	7.3	6.2	123	41	8.2	2.5
17	1.6	1.1	7.2	6.1	6.6	7.0	7.3	4.9	73	64	7.2	2.2
18	1.5	1.2	7.0	10	5.5	6.8	7.2	5.1	50	46	5.8	2.4
19	1.5	1.2	7.1	9.2	5.3	6.4	7.0	4.8	39	28	5.2	5.5
20	1.2	1.1	6.4	6.3	5.8	6.2	7.3	272	32	19	4.9	3.0
21	1.4	1.1	6.4	8.2	5.5	6.0	7.1	270	26	15	4.3	2.3
22	2.0	1.2	6.8	5.9	5.3	5.8	7.8	138	24	13	3.8	1.8
23	2.0	1.5	7.2	5.3	5.3	5.8	8.2	72	21	12	3.4	1.8
24	1.9	2.5	7.4	5.3	5.6	6.0	7.9	49	19	12	3.1	1.8
25	1.9	1.9	6.9	5.3	5.9	6.4	6.5	37	37	12	3.0	1.8
26	1.7	8.2	7.0	5.1	5.9	7.0	6.3	31	35	11	3.1	1.9
27	1.9	5.4	10	5.0	5.6	7.6	6.2	26	28	11	3.2	1.9
28	1.7	1.9	8.1	4.9	5.8	8.0	5.9	24	22	9.8	2.9	2.0
29	1.4	2.0	6.8	5.2	---	7.5	5.8	22	21	9.3	3.1	2.3
30	1.4	2.6	6.6	5.2	---	7.0	5.6	20	19	9.1	3.2	1.7
31	1.5	---	6.5	5.5	---	6.8	---	19	---	8.5	2.6	---
TOTAL	50.08	51.97	179.1	193.4	188.7	239.7	211.9	1078.4	913	539.7	217.0	80.2
MEAN	1.62	1.73	5.78	6.24	6.74	7.73	7.06	34.8	30.4	17.4	7.00	2.67
MAX	3.1	8.2	10	10	24	33	8.2	272	123	64	23	7.5
MIN	.82	.60	2.2	4.9	5.3	5.5	5.6	3.7	11	8.5	2.6	1.7
CFSM	.02	.03	.09	.09	.10	.11	.10	.51	.44	.25	.10	.04
IN.	.03	.03	.10	.11	.10	.13	.12	.59	.50	.29	.12	.04
AC-FT	99	103	355	384	374	475	420	2140	1810	1070	430	159

CAL YR 1983 TOTAL 3723.83 MEAN 10.2 MAX 1420 MIN .45 CFSM .15 IN 2.03 AC-FT 7390
WTR YR 1983 TOTAL 3943.15 MEAN 10.8 MAX 272 MIN .60 CFSM .16 IN 2.14 AC-FT 7820

NOTE.--No gage-height record Mar. 16 to Apr. 18.

08185000 CIBOLO CREEK AT SELMA, TX

LOCATION.--Lat 29°35'38", long 98°18'39", Bexar-Guadalupe County line, Hydrologic Unit 12100304, on right bank 0.6 mi downstream from Missouri-Kansas-Texas Railroad Co. bridge and 0.9 mi upstream from bridge on Interstate Highway 35 at Selma.

DRAINAGE AREA.--274 mi^2.

PERIOD OF RECORD.--March 1946 to current year. Figures for water year 1960 in WSP 1813 are in error and should be disregarded.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 728.34 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Small diversion above station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08183900. Considerable flow of Cibolo Creek enters the Edwards and associated limestones in the Balcones Fault Zone, which crosses basin between this station and the station near Boerne (station 08183900). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 14.8 ft^3/s (10,720 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,000 ft^3/s July 16, 1973 (gage height, 26.2 ft, from floodmark), from rating curve extended above 16,000 ft^3/s on basis of field estimate of 54,000 ft^3/s and contracted-opening measurement of 65,000 ft^3/s; no flow most of time.
Maximum stage since at least 1869, that of July 16, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 26 ft occurred in 1889, but stage for flood in 1913 is unknown, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 743 ft^3/s May 20, time unknown (gage height, 5.36 ft, from floodmark), no other peak above base of 400 ft^3/s; no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	114	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	82	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	5.6	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	201.66	.00	.00	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	.000	6.51	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	114	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	400	.00	.00	.00	.00

CAL YR 1982 TOTAL 1355.25 MEAN 3.71 MAX 632 MIN .00 AC-FT 2690
WTR YR 1983 TOTAL 201.66 MEAN .55 MAX 114 MIN .00 AC-FT 400

08190000 NUECES RIVER AT LAGUNA, TX

LOCATION.--Lat 29°25'42", long 99°59'49", Uvalde County, Hydrologic Unit 12110101, on right bank 0.5 mi downstream from Sycamore Creek, 1.0 mi northeast of Laguna, and at mile 370.8 (revised).

DRAINAGE AREA.--737 mi^2 (revised).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year.

REVISED RECORDS.--WSP 1562: 1930, 1931(M), 1932, 1939.

GAGE.--Water-stage recorder. Datum of gage is 1,119.72 ft National Geodetic Vertical Datum of 1929. Prior to Jan. 26, 1925, nonrecording gage at site 2 mi downstream at different datum.

REMARKS.--Water-discharge records good. Many small diversions above station for irrigation.

AVERAGE DISCHARGE.--60 years, 148 ft^3/s (2.63 in/yr), 107,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 307,000 ft^3/s Sept. 24, 1955, (gage height, 29.95 ft, in gage well, 32.7 ft, from floodmarks), from rating curve extended above 40,000 ft^3/s on basis of float measurement of 110,000 ft^3/s and slope-area measurements of 213,000 and 307,000 ft^3/s; minimum, 2.6 ft^3/s Mar. 14-16, 1957.
Maximum stage since at least 1866, that of Sept. 24, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1913 reached a stage of about 29 ft, discharge 210,000 ft^3/s; flood of Sept. 21, 1923, reached a stage of about 26.5 ft, discharge 160,000 ft^3/s; from information by local residents. Discharges based on rating curve mentioned above.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 248 ft^3/s May 21 at 0900 hours (gage height, 4.37 ft), no peak above base of 700 ft^3/s; minimum daily, 28 ft^3/s Sept. 14-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	46	59	63	62	68	68	56	71	76	39	34
2	49	46	55	61	65	68	69	57	70	74	38	34
3	49	45	55	64	66	68	68	55	69	71	40	33
4	49	47	52	64	66	79	69	55	68	70	44	32
5	49	47	53	63	65	73	68	53	70	68	49	32
6	50	47	54	61	62	81	68	53	72	89	43	32
7	50	48	56	61	64	81	67	52	69	93	40	32
8	50	48	56	59	64	74	67	49	73	82	65	31
9	49	48	58	60	66	72	69	52	78	76	87	32
10	49	49	61	60	66	71	67	53	75	71	55	31
11	51	49	60	60	65	71	66	54	70	68	49	30
12	52	48	60	60	67	70	65	55	66	67	45	30
13	51	49	60	60	66	70	63	56	62	64	45	29
14	51	49	60	58	67	72	.65	55	54	63	44	28
15	51	50	59	56	69	73	65	54	109	62	43	28
16	50	50	59	57	66	71	63	55	130	61	42	28
17	50	52	60	57	71	69	63	55	118	60	42	28
18	50	50	60	59	71	69	62	54	108	58	42	34
19	50	50	57	57	70	70	63	56	102	60	41	123
20	48	50	58	66	67	69	62	84	96	58	42	93
21	50	50	59	72	65	68	62	156	92	55	41	74
22	50	52	60	72	68	68	61	183	91	55	40	68
23	49	52	59	74	67	68	59	135	88	53	39	63
24	48	55	58	70	66	70	59	104	93	50	39	60
25	48	55	54	66	66	69	60	93	93	50	38	58
26	47	64	55	63	67	72	59	88	91	48	37	58
27	47	63	64	63	68	70	59	82	86	46	36	57
28	47	63	57	63	69	71	58	79	84	44	36	57
29	46	64	59	62	---	70	58	76	81	43	36	57
30	46	64	60	61	---	71	57	72	78	41	35	57
31	46	---	64	63	---	71	---	72	---	41	34	---
TOTAL	1521	1550	1801	1935	1861	2207	1909	2253	2507	1917	1346	1383
MEAN	49.1	51.7	58.1	62.4	66.5	71.2	63.6	72.7	83.6	61.8	43.4	46.1
MAX	52	64	64	74	71	81	69	183	130	93	87	123
MIN	46	45	52	56	62	68	57	49	54	41	34	28
CFSM	.06	.07	.08	.08	.09	.09	.08	.10	.11	.08	.06	.06
IN.	.07	.08	.09	.09	.09	.11	.09	.11	.12	.09	.07	.07
AC-FT	3020	3070	3570	3840	3690	4380	3790	4470	4970	3800	2670	2740

CAL YR 1982 TOTAL 36012 MEAN 98.7 MAX 529 MIN 41 CFSM .13 IN 1.75 AC-FT 71430
WTR YR 1983 TOTAL 22190 MEAN 60.8 MAX 183 MIN 28 CFSM .08 IN 1.08 AC-FT 44010

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
20...	1630	78	390	7.8	13.0	<1	.80	10.0	99	.6	K69	120
APR												
21...	1255	62	376	7.8	21.5	<1	.60	8.2	96	.5	K4	K16
SEP												
01...	1300	35	437	7.4	28.0	<1	.70	7.8	103	.1	K3	K3

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JAN											
20...	180	14	52	13	7.9	.3	.8	170	15	13	.10
APR											
21...	180	14	52	13	7.7	.3	.8	170	14	13	.10
SEP											
01...	200	10	57	14	8.1	.3	.9	190	12	14	.10

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, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
20...	10	214	3	2	<.020	1.0	<.060	--	.50	.030	.7
APR											
21...	11	214	<1	<1	<.020	.80	.440	.06	.50	.010	1.1
SEP											
01...	14	234	6	<1	<.020	.60	.040	.26	.30	<.010	.5

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN							
20...	1630	<1	36	<1	<10	<1	<3
SEP							
01...	1300	<1	44	<1	<10	<1	5

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN						
20...	<1	<1	<.1	1	<1	6
SEP						
01...	<1	2	<.1	<1	<1	5

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
JAN										
20...	1630	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01
SEP										
01...	1300	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01

08190000 NUECES RIVER AT LAGUNA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
JAN 20...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
SEP 01...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 20...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01
SEP 01...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01

08190500 WEST NUECES RIVER NEAR BRACKETTVILLE, TX

LOCATION.--Lat 29°28'21", long 100°14'10", Kinney County, Hydrologic Unit 12110102, at Wilson Ranch on Farm Road 3199, 1.3 mi upstream from Miguel Canyon, 16.0 mi northeast of Brackettville, and 40.2 mi upstream from mouth.

DRAINAGE AREA.--694 mi^2 (revised).

PERIOD OF RECORD.--September 1939 to September 1950, April 1956 to current year.

REVISED RECORDS.--WSP 1312: 1949(M).

GAGE.--Water-stage recorder. Datum of gage is 1,326.79 ft National Geodetic Vertical Datum of 1929. Prior to Mar. 14, 1940, nonrecording gage at same site and datum.

REMARKS.--Records good except those below 1 ft^3/s, which are fair. In ordinary years, a large part of streamflow from the basin is lost by seepage into the Balcones Fault Zone of the Edwards and associated limestones above station. No known diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years (water years 1940-50, 1957-83), 36.8 ft^3/s (26,660 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 246,000 ft^3/s Sept. 20, 1964, (gage height, 31.3 ft, from floodmark), from rating curve extended above 4,500 ft^3/s on basis of slope-area measurements of 10,000, 51,000, 150,000, and 246,000 ft^3/s; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1879, about 40 ft June 14, 1935 (discharge, 550,000 ft^3/s, based on slope-area measurements of 580,000 ft^3/s at site 33 mi upstream from gage) and 536,000 ft^3/s (at site 24 mi downstream from gage, present site and datum), from gage-height relation of 1935 and 1955 flood peaks at site 0.6 mi upstream. Flood in 1900 reached a stage of about 34 ft, and flood of Sept. 24, 1955, reached a stage of 27.1 ft, from floodmark at present site (discharge, 150,000 ft^3/s, by slope-area measurement).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22,600 ft^3/s June 15 at 1800 hours (gage height, 15.75 ft, from inside floodmark), no other peak above base of 1,000 ft^3/s; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.02	.09	.01	.08	.04	.00	.00	.17	2.9	.16	.00
2	.02	.02	.08	.01	.07	.04	.00	.00	.14	2.7	.14	.00
3	.02	.02	.07	.01	.07	.04	.00	.00	.10	2.5	.12	.00
4	.02	.02	.06	.01	.07	.08	.00	.00	.08	2.4	.20	.00
5	.02	.02	.06	.01	.06	.06	.00	.00	.06	2.2	.40	.00
6	.02	.02	.05	.01	.06	.05	.00	.00	.13	2.2	.50	.00
7	.02	.02	.05	.01	.06	.04	.00	.00	.24	2.1	.40	.00
8	.02	.01	.05	.01	.06	.04	.00	.00	.98	1.9	.20	.00
9	.02	.01	.04	.01	.06	.04	.00	.00	1.2	1.8	.40	.00
10	.02	.01	.04	.01	.05	.03	.00	.00	.98	1.7	.80	.00
11	.02	.01	.04	.01	.05	.03	.00	.00	.75	1.6	.60	.00
12	.02	.01	.04	.01	.05	.03	.00	.00	.54	1.4	.40	.00
13	.02	.00	.03	.01	.05	.03	.00	.00	.35	1.3	.28	.00
14	.02	.00	.03	.01	.05	.03	.00	.00	.24	1.2	.20	.00
15	.02	.00	.03	.01	.05	.02	.00	.00	3830	1.1	.16	.00
16	.02	.00	.03	.01	.05	.02	.00	.00	1220	1.0	.12	.00
17	.02	.00	.03	.01	.04	.02	.00	.00	165	.92	.08	.00
18	.02	.00	.03	.01	.04	.02	.00	.00	70	.84	.06	.00
19	.02	.00	.02	.08	.04	.02	.00	.00	36	.76	.04	.00
20	.02	.00	.02	.16	.04	.02	.00	.15	19	.70	.04	.00
21	.02	.00	.02	.40	.04	.02	.00	.26	10	.64	.03	.00
22	.02	.00	.02	.28	.04	.01	.00	.68	7.8	.58	.03	.00
23	.02	.01	.02	.24	.04	.01	.00	2.1	6.3	.52	.02	.00
24	.02	.02	.02	.21	.04	.01	.00	2.0	5.4	.47	.02	.00
25	.02	.06	.02	.18	.04	.01	.00	1.5	4.9	.42	.02	.00
26	.02	.14	.02	.16	.04	.01	.00	1.1	4.4	.37	.01	.00
27	.02	.12	.02	.14	.04	.01	.00	.75	4.1	.33	.01	.00
28	.02	.12	.02	.12	.04	.01	.00	.50	3.7	.29	.01	.00
29	.02	.10	.01	.10	---	.01	.00	.39	3.3	.25	.01	.00
30	.02	.10	.01	.10	---	.01	.00	.27	3.1	.21	.01	.00
31	.02	---	.01	.08	---	.01	---	.21	---	.18	.01	---
TOTAL	.62	.86	1.08	2.43	1.42	.82	.00	9.91	5398.96	37.48	5.48	.00
MEAN	.020	.029	.035	.078	.051	.026	.000	.32	180	1.21	.18	.000
MAX	.02	.14	.09	.40	.08	.08	.00	2.1	3830	2.9	.80	.00
MIN	.02	.00	.01	.01	.04	.01	.00	.00	.06	.18	.01	.00
AC-FT	1.2	1.7	2.1	4.8	2.8	1.6	.00	20	10710	74	11	.00

CAL YR 1982	TOTAL	713.57	MEAN	1.95	MAX	104	MIN	.00	AC-FT	1420
WTR YR 1983	TOTAL	5459.06	MEAN	15.0	MAX	3830	MIN	.00	AC-FT	10830

08192000 NUECES RIVER BELOW UVALDE, TX

LOCATION.--Lat 29°07'25", long 99°53'40", Uvalde County, Hydrologic Unit 12110103, on right bank at McDaniel Ranch, 5.7 mi upstream from bridge on U.S. Highway 83, 8.8 mi southwest of Uvalde, 18.2 mi downstream from West Nueces River, and at mile 338.7 (revised).

DRAINAGE AREA.--1,861 mi² (revised).

PERIOD OF RECORD.--April 1939 to current year. October 1927 to April 1939, published as "near Uvalde"; records equivalent only during periods of floodflow.

REVISED RECORDS.--WSP 1732: 1956(M).

GAGE.--Water-stage recorder. Datum of gage is 796.12 ft National Geodetic Vertical Datum of 1929. Oct. 4, 1927, to Apr. 30, 1939, water-stage recorder at site 6.2 mi upstream at different datum.

REMARKS.--Records good. Part of flow of Nueces River enters Edwards and associated limestones in the Balcones Fault Zone which crosses basin downstream from Laguna (station 08190000) and upstream from this station. At low stage, most of headwater flow enters this formation. Many small diversions above station for irrigation. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--44 years, 121 ft³/s (87,660 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 189,000 ft³/s Sept. 24, 1955 (gage height, 24.61 ft, from floodmark), from rating curve extended above 34,000 ft³/s on basis of conveyance study and slope-area measurement of peak flow; no flow at times in 1951-57.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1836, 40.4 ft June 14, 1935, from floodmark (discharge at former site, 616,000 ft³/s, by slope-area measurement). Large floods also occurred in 1901 and 1913, stages unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,390 ft³/s June 16 at 1500 hours (gage height, 6.06 ft), no other peak above base of 250 ft³/s; minium daily, 16 ft³/s for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	29	27	26	22	23	20	22	16	23	17	17
2	29	29	27	24	22	23	20	21	16	23	18	17
3	30	28	26	24	23	23	21	20	16	22	16	16
4	30	28	26	24	23	26	22	20	16	22	33	16
5	30	28	26	24	24	22	21	20	17	22	24	16
6	30	28	26	24	23	22	20	20	26	22	21	16
7	30	28	26	24	23	22	21	19	23	22	19	16
8	30	28	26	24	23	22	21	19	17	22	19	17
9	29	28	25	24	22	22	21	19	16	22	18	17
10	29	28	26	24	23	21	21	20	16	22	18	17
11	29	28	24	24	23	21	21	20	16	21	17	16
12	29	27	24	24	23	21	22	20	16	22	17	16
13	29	26	24	24	23	21	22	20	16	21	17	16
14	29	27	24	24	24	21	22	20	16	22	17	16
15	29	27	24	23	26	22	22	21	16	23	17	16
16	29	27	24	23	23	21	22	20	798	22	17	16
17	29	28	24	23	23	20	22	19	302	21	17	16
18	28	27	24	24	23	21	23	19	52	20	17	20
19	28	28	24	24	23	22	23	19	37	20	16	19
20	29	27	24	26	22	21	23	19	31	20	16	18
21	29	27	24	26	22	21	22	20	28	20	16	17
22	29	28	26	23	22	21	21	19	26	20	16	16
23	29	27	26	23	23	30	21	19	25	20	16	16
24	28	27	26	23	23	23	21	17	25	20	16	16
25	28	26	24	23	23	23	21	17	24	20	16	16
26	28	35	24	23	23	22	21	17	23	18	16	16
27	28	30	27	23	23	21	22	18	23	18	16	16
28	28	28	24	23	23	21	22	17	26	18	16	16
29	27	27	24	23	---	22	22	16	24	18	16	16
30	27	27	24	23	---	22	22	16	23	18	16	16
31	28	---	26	23	---	22	---	16	---	18	17	---
TOTAL	893	836	776	737	643	685	645	589	1726	642	548	495
MEAN	28.8	27.9	25.0	23.8	23.0	22.1	21.5	19.0	57.5	20.7	17.7	16.5
MAX	30	35	27	26	26	30	23	22	798	23	33	20
MIN	27	26	24	23	22	20	20	16	16	18	16	16
AC-FT	1770	1660	1540	1460	1280	1360	1280	1170	3420	1270	1090	982

CAL YR 1982 TOTAL 35272 MEAN 96.6 MAX 2980 MIN 24 AC-FT 69960
WTR YR 1983 TOTAL 9215 MEAN 25.2 MAX 798 MIN 16 AC-FT 18280

08195000 FRIO RIVER AT CONCAN, TX

LOCATION.--Lat 29°29'18", long 99°42'16", Uvalde County, Hydrologic Unit 12110106, on left bank 0.7 mi southeast of Concan Post Office, 15 mi upstream from Dry Frio River, and 222.8 mi (revised) upstream from mouth.

DRAINAGE AREA.--389 mi^2 (revised).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to September 1929, October 1930 to current year.

REVISED RECORDS.--WSP 1342: Drainage area. WSP 1512: 1926, 1931-32, 1934(M), 1935-36. WSP 1712: 1958. WSP 1923: 1954(M), 1957(M).

GAGE.--Water-stage recorder. Datum of gage is 1,203.71 ft National Geodetic Vertical Datum of 1929. Oct. 26, 1923, to July 28, 1924, nonrecording gage at site 86 ft upstream at datum 5.08 ft lower. July 29, 1924, to Oct. 3, 1930, nonrecording gage, and Oct. 4, 1930, to May 18, 1939, water-stage recorder, at site 130 ft downstream at present datum.

REMARKS.--Water-discharge records good. Many small diversions for irrigation above station.

AVERAGE DISCHARGE.--58 years (water years 1925-29, 1931-83), 113 ft^3/s (3.79 in/yr), 81,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 162,000 ft^3/s July 1, 1932 (gage height, 34.44 ft, from floodmarks), from rating curve extended above 44,000 ft^3/s on basis of flow-over-dam measurement of 56,600 ft^3/s and slope-area measurement of 162,000 ft^3/s; no flow Aug. 5, 1956, to Jan 6, 1957.
Maximum stage since at least 1869, that of July 1, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 238 ft^3/s May 20 at 1600 hours (gage height, 4.25 ft), no peak above base of 500 ft^3/s; minimum daily, 30 ft^3/s Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	41	73	67	65	67	72	59	65	75	46	32
2	48	42	72	65	65	67	70	58	63	71	45	33
3	47	41	72	66	65	70	72	54	65	70	44	31
4	47	41	72	65	65	153	72	54	64	68	47	31
5	47	42	70	65	71	122	72	53	73	65	46	31
6	50	43	70	65	66	114	75	54	89	69	46	31
7	50	42	70	65	67	104	72	54	172	69	43	30
8	49	42	69	65	65	97	70	52	120	70	49	44
9	49	42	67	64	65	94	68	56	97	67	57	38
10	48	42	70	64	65	92	68	56	86	65	47	35
11	48	43	70	64	65	90	68	59	84	63	45	35
12	49	42	67	64	65	89	68	58	80	62	44	34
13	48	43	67	63	64	89	65	58	77	61	43	34
14	47	44	66	63	65	89	63	56	77	62	45	34
15	46	44	65	63	71	87	63	54	81	62	43	34
16	45	45	65	63	70	91	63	54	87	61	41	33
17	45	46	65	63	72	83	63	52	89	60	40	32
18	44	46	65	65	71	83	63	52	90	61	40	36
19	44	46	64	65	71	82	60	52	86	60	38	39
20	43	46	63	69	70	80	62	102	86	60	39	39
21	44	46	63	74	69	78	61	147	85	58	39	38
22	44	46	63	70	70	80	60	95	84	57	37	37
23	44	45	63	68	70	85	57	78	81	55	36	37
24	44	46	63	66	70	80	58	75	81	53	34	37
25	43	47	61	65	70	80	59	70	81	52	33	38
26	43	72	64	65	70	89	57	68	88	51	33	39
27	43	80	71	65	69	80	59	68	84	51	33	39
28	43	75	68	65	68	78	58	68	79	50	33	39
29	42	71	67	65	---	78	57	68	75	48	33	40
30	42	73	66	66	---	78	56	65	73	47	33	40
31	42	---	66	66	---	78	---	65	---	46	31	---
TOTAL	1416	1464	2077	2028	1899	2727	1931	2014	2542	1869	1263	1070
MEAN	45.7	48.8	67.0	65.4	67.8	88.0	64.4	65.0	84.7	60.3	40.7	35.7
MAX	50	80	73	74	72	153	75	147	172	75	57	44
MIN	42	41	61	63	64	67	56	52	63	46	31	30
CFSM	.11	.12	.17	.16	.17	.22	.16	.16	.21	.15	.10	.09
IN.	.13	.13	.19	.19	.17	.25	.18	.18	.23	.17	.12	.10
AC-FT	2810	2900	4120	4020	3770	5410	3830	3990	5040	3710	2510	2120

CAL YR 1982	TOTAL	35823	MEAN 98.1	MAX 2640	MIN 37	CFSM .24	IN 3.29	AC-FT 71050		
WTR YR 1983	TOTAL	22300	MEAN 61.1	MAX 172	MIN 30	CFSM .15	IN 2.05	AC-FT 44230		

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 19...	1232	64	405	7.9	12.0	<1	.70	10.?	98	.9	23	53
APR 20...	1054	63	388	8.1	21.5	<1	.50	8.6	101	2.8	21	58
AUG 31...	1110	32	392	7.8	27.5	<1	1.4	7.4	97	.2	K44	42

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JAN 19...	200	15	55	14	7.5	.2	.9	180	15	13	.20
APR 20...	190	8	52	14	7.0	.2	.8	180	14	11	.10
AUG 31...	190	19	51	15	7.8	.3	.9	170	15	13	.10

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, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 19...	9.3	223	30	30	<.020	.80	<.060	--	.40	.020	1.2
APR 20...	10	217	1	<1	<.010	<.10	.490	.21	.70	.010	1.9
AUG 31...	14	219	10	<1	<.020	.20	.050	.35	.40	.010	1.0

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 19...	1232	<1	30	<1	<10	<1	<3
AUG 31...	1110	<1	35	<1	<10	<1	5

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 19...	<1	<1	<.1	1	<1	4
AUG 31...	<1	2	.1	<1	<1	4

08195000 FRIO RIVER AT CONCAN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 19...	1232	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01
AUG 31...	1110	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
JAN 19...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
AUG 31...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 19...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01
AUG 31...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01

08196000 DRY FRIO RIVER NEAR REAGAN WELLS, TX

LOCATION.--Lat 29°30'16", long 99°46'52", Uvalde County, Hydrologic Unit 12110106, on right bank 2.3 mi upstream from bridge on U.S. Highway 83, 3.1 mi upstream from Rocky Creek, 4.3 mi southeast of Reagan Wells, and 25.9 mi upstream from mouth.

DRAINAGE AREA.--126 mi² (revised).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1712: 1953. WSP 1923: 1955(M).

GAGE.--Water-stage recorder. Datum of gage is 1,335.2 ft State Department of Highways and Public Transportation datum.

REMARKS.--Water-discharge records good. Several small diversions above station.

AVERAGE DISCHARGE.--31 years, 34.5 ft³/s (4.00 in/yr), 25,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123,000 ft³/s Aug. 13, 1966 (gage height, 27.6 ft, from floodmark), from rating curve extended above 900 ft³/s on basis of slope-area measurements of 11,400, 30,700, 64,700, and 123,000 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875 occurred in 1880 (about 33 ft). Flood of June 14, 1935, reached a stage of 26.0 ft (discharge, 64,700 ft³/s, determined at site 2.6 mi upstream), and flood of July 1, 1932, reached a stage of 23 ft (discharge, 30,700 ft³/s, determined at site 2.0 mi upstream), from information by local residents.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)
May 20	1100	*2,220	6.42
May 21	0800	980	4.30

Minimum daily discharge, 3.4 ft³/s Aug. 29-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	5.1	17	12	12	10	14	9.0	26	10	4.7	5.0
2	7.0	5.8	17	12	11	10	14	9.0	25	9.0	4.5	5.5
3	6.8	5.6	17	11	11	11	14	8.2	24	8.2	4.7	5.0
4	6.5	5.3	17	11	11	23	13	7.9	24	7.9	6.6	4.5
5	6.4	5.2	16	11	12	22	14	6.9	22	7.9	7.2	4.2
6	6.4	5.5	16	11	12	19	14	6.6	24	8.2	6.3	4.0
7	7.8	5.7	16	10	11	19	13	6.3	24	13	5.5	4.0
8	7.2	5.8	16	10	11	18	13	6.6	24	12	5.7	8.8
9	6.2	5.9	14	10	12	18	13	7.5	22	9.8	10	12
10	5.7	5.9	15	9.8	12	17	13	9.0	21	8.6	8.2	10
11	6.0	6.0	16	9.8	11	16	13	9.8	24	8.2	7.2	9.0
12	7.0	6.6	15	9.4	11	16	12	9.4	27	7.9	6.9	8.2
13	6.9	6.4	14	9.4	11	16	12	9.0	26	7.5	6.6	7.9
14	6.5	6.9	13	9.4	11	15	12	8.6	25	7.9	6.0	7.2
15	4.9	7.5	13	9.0	13	16	12	9.0	27	8.2	5.5	6.9
16	5.1	7.8	13	9.0	13	16	12	7.9	28	8.2	5.2	6.6
17	5.1	7.9	13	8.6	13	15	11	7.2	26	7.9	4.7	6.0
18	4.9	8.2	13	9.8	12	15	11	7.5	24	7.5	4.7	6.6
19	5.7	8.6	12	10	12	14	11	7.9	20	7.9	4.5	6.9
20	5.2	8.6	12	11	12	14	11	247	19	9.0	4.5	6.6
21	4.9	9.0	12	16	11	14	11	326	18	8.2	4.2	6.3
22	5.1	9.4	12	14	11	14	11	106	17	7.5	4.0	6.0
23	5.3	10	12	14	11	16	11	65	16	6.9	4.0	5.5
24	5.3	12	12	13	11	15	11	53	16	6.6	3.8	5.5
25	5.0	12	11	13	11	14	11	46	16	6.3	3.8	5.5
26	4.7	20	11	12	10	18	10	40	16	6.0	3.6	5.2
27	4.7	22	13	12	10	16	10	36	14	5.7	3.6	5.0
28	5.0	20	12	12	10	14	10	34	12	5.5	3.6	5.2
29	5.3	18	12	12	---	14	9.8	30	12	5.2	3.4	5.2
30	5.3	17	12	11	---	14	9.4	28	12	5.0	3.4	5.0
31	5.3	---	12	11	---	13	---	26	---	5.0	3.4	---
TOTAL	180.2	279.7	426	343.2	319	482	356.2	1190.3	631	242.7	160.0	189.3
MEAN	5.81	9.32	13.7	11.1	11.4	15.5	11.9	38.4	21.0	7.83	5.16	6.31
MAX	7.8	22	17	16	13	23	14	326	28	13	10	12
MIN	4.7	5.1	11	8.6	10	10	9.4	6.3	12	5.0	3.4	4.0
CFSM	.05	.08	.12	.10	.10	.13	.10	.33	.18	.07	.04	.05
IN.	.06	.09	.14	.11	.10	.15	.11	.38	.20	.08	.05	.06
AC-FT	357	555	845	681	633	956	707	2360	1250	481	317	375

CAL YR 1982	TOTAL	7666.2	MEAN 21.0	MAX 515	MIN 4.7	CFSM .18	IN 2.44	AC-FT	15210	
WTR YR 1983	TOTAL	4799.6	MEAN 13.1	MAX 326	MIN 3.4	CFSM .11	IN 1.53	AC-FT	9520	

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
19...	1630	10	365	8.3	12.0	<1	.70	10.7	102	1.2	24	100
APR												
20...	1258	11	374	8.0	21.5	<1	.30	9.2	109	.9	K10	K14
AUG												
31...	1353	3.3	397	8.0	33.5	<1	1.1	8.8	129	.3	K18	250

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN												
19...	170	15	50	12	6.2	.2	.6	160	18	11	.10	7.7
APR												
20...	180	17	51	12	6.2	.2	.6	160	17	10	.10	8.6
AUG												
31...	180	22	53	12	6.6	.2	.6	160	13	12	.10	13

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
19...	202	<1	<1	--	<.020	.80	<.060	--	.40	.010	.9
APR											
20...	201	1	<1	.03	.470	.50	.450	.55	1.00	.020	1.9
AUG											
31...	206	9	<1	--	<.020	.20	.040	.16	.20	<.010	1.0

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN							
19...	1630	<1	32	<1	<10	<1	<3
AUG							
31...	1353	<1	43	<1	<10	<1	5

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN						
19...	<1	<1	<.1	1	<1	13
AUG						
31...	2	4	<.1	<1	<1	5

08196000 DRY FRIO RIVER NEAR REAGAN WELLS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 19...	1630	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01
AUG 31...	1353	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
JAN 19...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
AUG 31...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 19...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01
AUG 31...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01

08197500 FRIO RIVER BELOW DRY FRIO RIVER NEAR UVALDE, TX

LOCATION.--Lat 29°14'44", long 99°40'27", Uvalde County, Hydrologic Unit 12110106, on right bank 1.1 mi upstream from Farm Road 1023, 5.7 mi downstream from Dry Frio River, 6.3 mi downstream from bridge on U.S. Highway 90, 7.2 mi northeast of Uvalde, and 194.5 mi upstream from mouth.

DRAINAGE AREA.--631 mi^2 (revised).

PERIOD OF RECORD.--September 1952 to current year. Sum of records published as Frio River at Knippa and Dry Frio River at Knippa for period September 1952 to September 1953 is equivalent to record for this station.

GAGE.--Water-stage recorder. Datum of gage is 882.47 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Part of flow of Frio River enters the Edwards and associated limestones in the Balcones Fault Zone, which crosses basin between Concan (station 08195000) and this station. Most of low flow enters this formation. Many diversions for irrigation above station.

AVERAGE DISCHARGE.--31 years, 29.3 ft^3/s (21,230 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,500 ft^3/s Aug. 13, 1966 (gage height, 23.88 ft, from floodmark), from rating curve extended above 12,000 ft^3/s on basis of slope-area measurements of 24,400, 53,000, and 88,500 ft^3/s; no flow most of time each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, about 35 ft in 1894. Flood of July 1, 1932, reached a stage of about 30 ft. A higher flood than that of 1894 occurred prior to 1887. Above information by local residents.

EXTREMES FOR CURRENT YEAR.--No flow for year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR 1982 TOTAL 2869.56 MEAN 7.86 MAX 1100 MIN .00 AC-FT 5690
WTR YR 1983 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00

08198000 SABINAL RIVER NEAR SABINAL, TX

LOCATION (revised).--Lat 29°29'27", long 99°29'33", Uvalde County, Hydrologic Unit 12110106, on right bank 108 ft upstream from concrete dam, 2.3 mi downstream from mouth of Onion Creek, 12.5 mi north of Sabinal, and 41.6 mi upstream from mouth.

DRAINAGE AREA.--206 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1942 to current year.

REVISED RECORDS.--WSP 1312: 1943(M), 1944(M), 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 1,131.20 ft National Geodetic Vertical Datum of 1929. Prior to Apr. 9, 1971, at site 0.3 mi downstream at same datum.

REMARKS.--Water-discharge records good except those for periods of no gage-height record, which are fair. Several small diversions above station for irrigation.

AVERAGE DISCHARGE.--41 years, 56.3 ft^3/s (3.71 in/yr), 40,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,200 ft^3/s June 17, 1958 (gage height, 28.3 ft, from floodmark, at present site), from rating curve extended above 6,900 ft^3/s on basis of slope-area measurement of 55,200 ft^3/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1892, about 33 ft July 2, 1932, from information by local residents. There is a legend that a flood in the middle 1800's reached a stage of nearly 63 ft, see flood history for station 08198500.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 422 ft^3/s Aug. 9 at 0500 hours (gage height, 6.05 ft), but may have been higher June 6, 7, 15-18 during period of no gage-height record, no peak above base of 1,000 ft^3/s; minimum daily, 9.6 ft^3/s Sept. 21, 22, 25-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	11	23	20	18	23	35	20	26	54	25	14
2	13	11	22	20	17	23	30	20	24	52	25	14
3	13	11	20	20	17	23	30	19	23	50	25	13
4	13	11	18	20	17	36	30	18	22	48	28	13
5	13	11	18	20	17	71	30	18	40	48	27	12
6	15	12	19	20	19	57	30	17	70	50	27	12
7	16	12	19	20	21	47	30	17	120	54	26	11
8	16	12	19	19	23	42	29	16	80	56	36	12
9	16	12	18	19	23	40	29	16	70	52	100	15
10	16	12	18	19	23	37	29	17	64	48	39	15
11	16	12	18	19	20	37	29	17	60	46	31	14
12	16	12	18	19	19	35	29	17	58	44	28	13
13	16	11	18	19	19	35	27	17	56	44	27	12
14	17	12	18	19	18	35	24	18	54	46	25	11
15	16	12	18	19	33	37	23	18	60	48	24	12
16	14	12	18	19	52	42	23	17	80	46	23	11
17	14	13	18	19	38	39	23	17	100	46	22	10
18	13	13	18	19	32	35	23	17	90	45	22	12
19	13	14	18	19	29	35	23	15	82	45	20	13
20	13	14	17	18	28	32	23	49	76	49	20	11
21	12	12	17	20	26	32	22	94	72	44	19	9.6
22	12	12	17	20	24	32	22	62	68	38	19	9.6
23	12	12	17	20	24	36	20	50	66	37	18	11
24	12	10	17	20	24	37	19	46	64	35	17	10
25	12	11	16	19	24	34	19	42	62	33	16	9.6
26	12	24	15	18	24	46	19	38	82	33	15	9.6
27	12	34	19	18	23	44	19	35	66	30	14	9.6
28	12	34	20	18	23	40	19	34	60	29	14	9.6
29	12	28	19	18	---	40	19	32	56	29	14	9.6
30	11	26	19	18	---	38	19	29	54	28	15	9.6
31	11	---	19	18	---	37	---	27	---	26	14	---
TOTAL	422	443	568	593	675	1177	746	869	1905	1333	775	347.8
MEAN	13.6	14.8	18.3	19.1	24.1	38.0	24.9	28.0	63.5	43.0	25.0	11.6
MAX	17	34	23	20	52	71	35	94	120	56	100	15
MIN	11	10	15	18	17	23	19	15	22	26	14	9.6
CFSM	.07	.07	.09	.09	.12	.18	.12	.14	.31	.21	.12	.06
IN.	.08	.08	.10	.11	.12	.21	.13	.16	.34	.24	.14	.06
AC-FT	837	879	1130	1180	1340	2330	1480	1720	3780	2640	1540	690

CAL YR 1982	TOTAL	11495.0	MEAN 31.5	MAX 1250	MIN 6.6	CFSM .15	IN 2.08	AC-FT	22800	
WTR YR 1983	TOTAL	9853.8	MEAN 27.0	MAX 120	MIN 9.6	CFSM .13	IN 1.78	AC-FT	19550	

NOTE.--No gage-height record May 22 to June 2, June 4 to July 13, July 15-17.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
18...	1620	19	450	8.0	12.0	<1	.60	9.9	95	.6	K14	88
APR												
19...	1315	23	441	8.0	21.0	<1	.50	9.3	109	1.0	K9	K36
AUG												
30...	1300	16	436	8.0	29.0	<1	1.0	8.4	113	.3	K16	21

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JAN											
18...	220	31	67	13	8.1	.2	1.0	190	29	12	.20
APR											
19...	220	26	65	13	7.8	.2	1.0	190	31	12	.20
AUG											
30...	210	29	62	13	8.3	.3	1.0	180	24	12	.20

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)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
18...	10	254	3	<1	<.020	.40	<.060	--	.60	.010	.7
APR											
19...	11	255	<1	<1	<.020	.20	.470	.33	.80	.010	1.8
AUG											
30...	15	243	8	<1	<.020	.20	.040	.16	.20	.010	1.1

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN							
18...	1620	<1	33	<1	<10	<1	3
AUG							
30...	1300	1	36	<1	<10	<1	7

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN						
18...	<1	2	<.1	1	<1	5
AUG						
30...	1	4	<.1	<1	<1	7

08198000 SABINAL RIVER NEAR SABINAL, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 18...	1620	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01
AUG 30...	1300	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
JAN 18...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
AUG 30...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 18...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01
AUG 30...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01

08198500 SABINAL RIVER AT SABINAL, TX

LOCATION.--Lat 29°18'5" (revised), long 99°28'46", Uvalde County, Hydrologic Unit 12110106, on left bank 80 ft downstream from bridge on U.S. Highway 90, 1,100 ft downstream from Southern Pacific Lines railroad bridge, 0.8 mi west of Sabinal, and 5.8 mi upstream from Ranchero Creek, and 223 mi upsteam from mouth.

DRAINAGE AREA.--241 mi^2 (revised).

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

GAGE.--Water-stage recorder. Datum of gage is 882.17 ft National Geodetic Vertical Datum of 1929. Prior to July 29, 1958, nonrecording gage, and July 29, 1958, to Mar. 19, 1964, water-stage recorder at site 80 ft upstream at same datum.

REMARKS.--Records fair. Several small diversions for irrigation above station. Most of low flow of the Sabinal River enters the Edwards and associated limestones in the Balcones Fault Zone, which crosses basin upstream from this station and downstream from Sabinal River near Sabinal (station 08198000). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 32.0 ft^3/s (23,180 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,300 ft^3/s June 17, 1958 (gage height, 33.3 ft); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 40 ft Aug. 24, 1919, from information by local residents. Flood of July 2, 1932, reached a stage of 31 ft (discharge, 60,000 ft^3/s), from information by Southern Pacific Lines. There is a legend that a flood in 1858 covered the townsite of Sabinal. The stage would have been 70 to 80 ft, which seems unlikely. However, it is possible that a flood occurred in 1858 that covered part of the townsite and was higher than any flood since that date.

EXTREMES FOR CURRENT YEAR.--Maximum discharge,15 ft^3/s May 19 at 2300 hours (gage geight, 3.76 ft), no peak above base of 100 ft^3/s; maximum gage height, 3.86 ft Dec. 13-15; minimum daily discharge, 0.25 ft^3/s May 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.0	.71	1.0	.81	.70	.83	.51	.46	.40	.32	.63
2	.92	1.3	.75	.70	.85	.68	.95	.50	.45	.39	.30	.60
3	.92	1.1	.84	.67	.85	.95	.79	.48	.44	.38	.30	.63
4	1.0	1.0	.85	.71	.85	1.7	.69	.43	.46	.38	1.1	.62
5	1.0	1.0	.85	.71	.85	.92	.55	.35	1.1	.34	.56	.62
6	1.1	1.1	.90	.65	.89	.91	.52	.34	.51	1.1	.45	.60
7	1.1	1.2	.93	.65	.93	.90	.55	.25	.50	1.9	.40	.58
8	1.1	1.1	.93	.65	.93	.85	.52	.26	.40	.55	.40	.58
9	1.0	1.1	.93	.61	.93	.88	.54	.34	.40	.46	2.0	.58
10	1.2	1.0	.93	.59	.93	.83	.54	.36	.43	.46	.64	.57
11	1.1	1.0	.99	.59	.93	.85	.58	.40	.45	.46	.50	.58
12	1.1	1.0	.93	.58	.93	.72	.65	.40	.39	.46	.46	.58
13	1.1	1.1	.97	.60	.93	.74	.93	.40	.39	.46	.44	.58
14	1.0	1.1	1.0	.61	1.1	.71	.65	.33	.40	.50	.49	.58
15	.92	1.0	.94	.59	1.3	.73	.75	.47	.93	.52	.56	.58
16	.85	.93	.94	.58	1.0	.74	.80	.41	.72	.52	.58	.58
17	.92	.93	.93	.58	1.0	.78	.81	.35	.58	.51	.62	.56
18	1.0	1.0	.87	.77	1.1	.84	.79	.38	.50	.48	.62	.66
19	1.0	1.0	.85	.60	1.1	.78	.78	1.1	.46	.52	.71	.48
20	.92	1.0	.85	.91	.98	.66	.77	1.5	.46	.56	.70	.52
21	1.0	.93	.85	.79	.85	.67	.75	1.5	.46	.50	.68	.52
22	.92	.93	.85	.60	.85	.66	.74	.78	.49	.46	.67	.52
23	.92	.92	.85	.65	.85	2.5	.71	.71	.51	.40	.64	.52
24	.92	1.0	.85	.65	.85	.78	.57	.71	.46	.38	.62	.52
25	.92	2.5	.78	.65	.81	.58	.53	.65	.54	.37	.59	.48
26	1.0	2.2	.71	.65	.73	.70	.52	.65	.52	.35	.62	.46
27	1.0	.69	1.1	.65	.65	.58	.52	.65	.48	.35	.65	.40
28	.92	.71	.79	.65	.65	.62	.52	.58	.44	.33	.65	.40
29	.92	.71	.87	.67	---	.61	.57	.52	.40	.35	.65	.40
30	1.0	.71	.93	.71	---	.70	.58	.52	.42	.34	.65	.42
31	1.0	---	.93	.78	---	.81	---	.46	---	.34	.65	---
TOTAL	30.77	32.26	27.40	20.80	25.43	26.08	20.00	17.29	15.15	15.52	19.22	16.35
MEAN	.99	1.08	.88	.67	.91	.84	.67	.56	.51	.50	.62	.55
MAX	1.2	2.5	1.1	1.0	1.3	2.5	.95	1.5	1.1	1.9	2.0	.66
MIN	.85	.69	.71	.58	.65	.58	.52	.25	.39	.33	.30	.40
AC-FT	61	64	54	41	50	52	40	34	30	31	38	32

CAL YR 1982 TOTAL 1666.64 MEAN 4.57 MAX 398 MIN .69 AC-FT 3310
WTR YR 1983 TOTAL 266.27 MEAN .73 MAX 2.5 MIN .25 AC-FT 528

NUECES RIVER BASIN

08200000 HONDO CREEK NEAR TARPLEY, TX

LOCATION.--Lat 29°34'10", long 99°14'47", Medina County, Hydrologic Unit 12110107, on left bank 460 ft downstream from bridge on Ranch Road 462, 6.3 mi southeast of Tarpley, and 16.6 mi northwest of Hondo.

DRAINAGE AREA.--95.6 mi² a (revised).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1712: 1957.

GAGE.--Water-stage recorder. Datum of gage is 1,169.1 ft Magnolia Oil Co. datum.

REMARKS.--Water-discharge records good. Several small diversions for irrigation above station.

AVERAGE DISCHARGE.--31 years, 38.7 ft³/s (6.10 in/yr), 28,040 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,800 ft³/s June 17, 1958 (gage height, 28.2 ft, from floodmark), from rating curve extended above 2,600 ft³/s on basis of slope-area measurements of 18,600 and 69,800 ft³/s; no flow at times in 1952-57, 1962-64, 1967, and 1971.
Maximum stage since at least 1907, that of June 17, 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1932 reached a stage of about 26 ft (discharge, 58,500 ft³/s), from information by local resident.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
May 20	1400	2,260	a5.32	June 14	2300	*3,710	a6.48
June 6	1300	1,320	4.45	June 15	1700	540	3.32

a From inside floodmarks.

Minimum daily discharge, 1.2 ft³/s Nov. 13-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.4	3.8	3.5	3.3	3.8	18	9.0	18	44	14	6.8
2	1.4	2.4	3.5	3.1	2.9	3.8	17	8.6	18	42	12	6.5
3	1.4	4.8	3.8	2.7	2.7	4.4	18	7.6	17	40	13	6.2
4	1.4	2.1	3.3	2.7	2.5	19	17	6.8	17	38	15	6.2
5	1.5	1.5	3.1	2.9	4.4	9.9	16	6.5	64	35	17	5.9
6	2.2	1.4	3.1	2.9	3.3	9.0	15	6.2	196	35	16	5.6
7	3.7	1.5	2.9	2.9	2.7	8.6	14	6.2	69	34	13	5.6
8	2.5	1.5	2.9	2.9	2.9	8.2	14	5.6	56	32	28	7.2
9	2.7	1.5	2.7	2.7	3.5	8.2	13	6.5	53	30	52	15
10	2.9	1.5	5.4	2.7	3.3	8.2	13	7.2	47	28	21	11
11	2.5	1.7	4.4	2.7	5.7	7.9	13	7.9	46	27	16	9.3
12	2.7	1.4	3.5	2.7	3.8	7.9	13	6.5	43	26	17	8.6
13	2.9	1.2	3.1	2.5	3.1	8.2	12	6.5	41	26	16	8.2
14	2.1	1.2	3.3	2.5	3.3	8.2	11	6.8	304	28	14	7.6
15	1.9	1.2	3.1	2.3	9.9	9.5	11	6.8	283	29	13	7.2
16	1.9	1.3	3.1	2.3	4.7	9.3	11	5.9	156	28	13	6.5
17	1.9	1.4	3.1	2.3	4.4	7.9	11	5.3	116	28	12	6.2
18	1.7	1.5	3.1	4.8	4.4	7.6	11	5.6	97	28	12	6.8
19	1.7	1.7	3.1	4.4	4.1	8.2	11	4.9	86	28	12	6.5
20	1.5	1.7	2.9	3.8	5.2	7.6	11	236	78	28	11	5.9
21	1.4	1.7	2.9	5.6	4.4	6.8	11	110	70	23	11	4.7
22	1.5	1.7	2.9	3.8	4.4	7.2	11	37	65	21	10	4.7
23	1.5	1.9	2.9	3.5	4.4	14	10	27	59	20	9.6	4.7
24	1.4	2.7	2.9	3.5	4.4	40	10	24	56	19	9.3	4.4
25	1.4	2.3	2.5	3.3	4.4	18	10	22	91	19	9.0	4.4
26	1.4	10	2.1	3.3	4.4	72	9.6	21	77	18	8.6	4.4
27	1.4	7.3	4.5	3.3	4.1	26	9.6	42	55	17	8.2	4.4
28	1.5	4.4	3.3	3.3	3.8	22	9.3	26	52	16	8.2	4.4
29	1.5	4.7	2.7	3.3	---	21	9.3	21	48	16	8.1	4.1
30	1.4	4.1	2.7	3.1	---	21	9.3	20	46	16	7.6	3.8
31	1.5	---	2.9	3.5	---	20	---	20	---	14	7.2	---
TOTAL	57.8	74.7	99.5	98.8	114.4	433.4	369.1	732.4	2424	833	433.8	192.8
MEAN	1.86	2.49	3.21	3.19	4.09	14.0	12.3	23.6	80.8	26.9	14.0	6.43
MAX	3.7	10	5.4	5.6	9.9	72	18	236	304	44	52	15
MIN	1.4	1.2	2.1	2.3	2.5	3.8	9.3	4.9	17	14	7.2	3.8
CFSM	.02	.03	.04	.04	.05	.16	.14	.27	.94	.31	.16	.08
IN.	.02	.03	.04	.04	.05	.19	.16	.32	1.05	.36	.19	.08
AC-FT	115	148	197	196	227	860	732	1450	4810	1650	860	382

CAL YR 1982	TOTAL	3801.7	MEAN 10.4	MAX 379	MIN 1.2	CFSM .12	IN 1.64	AC-FT	7540	
WTR YR 1983	TOTAL	5863.7	MEAN 16.1	MAX 304	MIN 1.2	CFSM .19	IN 2.53	AC-FT	11630	

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 17...	1704	2.3	405	8.3	12.0	<1	.70	10.8	102	.4	K3	20
APR 18...	1348	11	396	8.0	23.5	<1	.50	9.6	117	1.0	K4	K8
AUG 29...	1412	8.3	412	8.0	29.0	<1	5.1	8.6	115	.5	K3	44

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JAN 17...	200	61	59	13	8.0	.3	1.1	140	54	11	.20
APR 18...	190	43	59	11	6.9	.2	1.1	150	43	10	.20
AUG 29...	200	40	60	12	9.3	.3	1.1	160	37	12	.20

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, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 17...	8.7	239	30	30	<.020	.10	<.060	--	.40	.010	1.7
APR 18...	8.7	230	<1	<1	<.020	<.10	.450	.25	.70	.010	2.4
AUG 29...	15	243	5	<1	<.020	<.10	.030	.17	.20	<.010	1.4

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 17...	1704	<1	27	<1	<10	1	4
AUG 29...	1412	<1	31	<1	<10	<1	7

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 17...	<1	<1	<.1	1	<1	12
AUG 29...	1	3	<.1	<1	<1	3

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 17...	1704	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01
AUG 29...	1412	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
JAN 17...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
AUG 29...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 17...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01
AUG 29...	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01

NUECES RIVER BASIN

08204000 LEONA RIVER SPRING FLOW NEAR UVALDE, TX

LOCATION.--Lat 29°09'15", long 99°44'35", Uvalde County, Hydrologic Unit 12110106 at old road crossing on White's Ranch, 2.0 mi (3.2 km) downstream from Cooks Slough, and 4.7 mi (7.6 km) southeast of Uvalde.

DRAINAGE AREA.--Not applicable. Normal flow of river comes from springs.

PERIOD OF RECORD.--1939 to current year. Occasional discharge measurements 1925-39 in connection with seepage investigations. Operated as continuous record station from January 1939 to September 1965. Occasional discharge measurements since September 1965.

GAGE.--Nonrecording. Datum of gage is 838.39 ft (255.541 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Discharge represents flow from several springs that enter river above station and below Uvalde. Surface runoff from precipitation is excluded. No known diversion above station.

AVERAGE DISCHARGE.--26 years (during period of continuous record, water years 1940-65), 9.72 ft^3/s (0.275 m^3/s), 7,040 acre-ft/yr (8.68 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--(1939 to current year) Maximum measured spring discharge, 82 ft^3/s (2.32 m^3/s) May 25, 1977; no flow at times in 1948-49, 1951-59, 1964-68.

DISCHARGE MEASUREMENTS, IN CUBIC FEET PER SECOND
WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)
Oct. 14, 1982	26.3	Mar. 3, 1983	26.4	July 12, 1983	13.4
Dec. 2	31.3	Apr. 11	29.5	Aug. 23	16.1
Jan. 11	32.4	June 2	11.8		

08200700 HONDO CREEK AT KING WATERHOLE NEAR HONDO, TX

LOCATION.--Lat 29°23'26", long 99°09'04", Medina County, Hydrologic Unit 12110107, on left bank 0.3 mi downstream from county road low-water crossing, 3.1 mi north of Hondo, 7.8 mi upstream from Verde Creek, and 55.4 mi upstream from mouth.

DRAINAGE AREA.--149 mi^2 (revised).

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 897.87 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Most of the low flow of Hondo Creek enters Edwards and associated limestones in the Balcones Fault Zone, which crosses basin between Tarpley (station 08200000) and this station. Small diversions above station for irrigation, amounts unknown.

AVERAGE DISCHARGE.--23 years, 4.0 ft^3/s (10,140 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,900 ft^3/s July 15, 1973 (gage height, 16.4 ft, from floodmark), from rating curve extended above 9,800 ft^3/s on basis of contracted-opening measurement of peak flow; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 21 ft in September 1919, from information by local resident. Other floods occurred in July 1932, stage 18 ft and June 17, 1958, stage 17 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,680 ft^3/s June 15, time unknown (gage height, 4.50 ft, from floodmark), no other peak above base of 500 ft^3/s; no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	13	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.33	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	600	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	340	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	190	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	80	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	30	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	7.3	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	9.7	3.1	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	1.4	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.55	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.16	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	9.70	1252.54	.00	13.33	.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.31	41.8	.000	.43	.000
MAX	.00	.00	.00	.00	.00	.00	.00	9.7	600	.00	13	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	19	2480	.00	26	.00

CAL YR 1982 TOTAL 22.34 MEAN .061 MAX 12 MIN .00 AC-FT 44
WTR YR 1983 TOTAL 1275.57 MEAN 3.49 MAX 600 MIN .00 AC-FT 2530

08201500 SECO CREEK AT MILLER RANCH NEAR UTOPIA, TX

LOCATION.--Lat 29°34'23", long 99°24'10", Medina County, Hydrologic Unit 12110107, on right bank 200 ft upstream from county road crossing, 4.5 mi downstream from Cascade Creek, 7.9 mi southeast of Utopia, and 58.0 mi upstream from mouth.

DRAINAGE AREA.--45.0 mi^2 (revised).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder, crest-stage gages, and concrete control. Datum of gage is 1,265.8 ft Magnolia Oil Co. datum, adjustment unknown.

REMARKS.--Water-discharge records good. No known diversion above station.

AVERAGE DISCHARGE.--22 years, 18.3 ft^3/s (5.77 in/yr), 13,260 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,500 ft^3/s July 15, 1973 (gage height, 14.4 ft, from floodmark), from rating curve extended above 910 ft^3/s on basis of field estimate of flow over and around end of dam, 14,100 ft^3/s, and slope-area measurement of 52,600 ft^3/s; no flow for many days in 1963-64.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1901, 16.4 ft June 17, 1958, from floodmarks (discharge 52,600 ft^3/s, by slope-area measurement of peak flow).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 188 ft^3/s May 20 at 1500 hours (gage height 2.56 ft), no peak above of 600 ft^3/s; minimum daily, 0.68 ft^3/s Nov. 14-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.1	1.4	1.8	1.6	1.5	6.1	2.8	5.0	9.6	3.1	1.7
2	1.4	1.1	1.5	1.8	1.5	1.5	5.3	2.8	4.6	9.0	2.9	1.7
3	1.4	1.2	2.5	1.6	1.4	1.8	5.3	2.5	4.3	8.4	3.3	1.7
4	1.4	1.2	1.9	1.5	1.4	8.9	5.3	2.4	4.3	7.9	4.7	1.5
5	1.3	1.2	1.5	1.5	1.9	4.4	5.0	2.3	29	7.4	3.6	1.5
6	1.3	1.2	1.5	1.5	1.9	3.4	4.9	2.0	39	7.9	4.1	1.4
7	1.4	1.1	1.4	1.7	1.7	2.9	4.6	2.2	21	8.4	3.2	1.3
8	1.6	1.0	1.4	1.7	1.7	2.8	4.6	2.1	18	7.9	11	8.7
9	1.7	.92	1.3	1.7	1.7	2.8	4.6	2.4	17	7.4	9.8	9.0
10	1.6	.92	1.8	1.7	1.5	2.6	4.6	2.7	16	7.0	6.4	2.7
11	1.5	.85	2.2	1.7	1.5	2.4	4.6	2.6	14	6.5	5.3	2.2
12	1.7	.79	1.9	1.7	1.5	2.4	4.4	2.5	13	6.5	4.4	1.8
13	1.8	.75	1.5	1.7	1.5	2.4	4.3	2.4	13	7.0	5.1	1.8
14	1.5	.68	1.4	1.7	1.7	2.4	3.9	2.4	12	7.2	3.8	1.7
15	1.4	.68	1.5	1.6	6.7	2.7	3.9	2.3	36	6.9	3.3	1.7
16	1.3	.68	1.5	1.5	2.5	3.2	3.9	2.0	26	6.4	3.0	1.6
17	1.3	.68	1.5	1.5	2.2	2.4	3.9	1.8	22	6.0	2.8	1.5
18	1.3	.72	1.5	2.0	2.2	2.4	3.9	2.0	20	5.7	2.8	1.7
19	1.3	.79	1.5	2.5	2.0	2.4	3.6	2.0	19	5.8	2.6	2.0
20	1.2	.79	1.5	2.1	2.0	2.5	3.6	37	18	6.5	2.4	1.7
21	1.2	.79	1.5	3.3	1.9	2.2	3.6	34	17	5.2	2.4	1.5
22	1.2	.79	1.5	2.4	1.7	2.2	3.6	15	16	4.9	2.4	1.3
23	1.2	.84	1.5	2.0	1.7	5.3	3.6	11	15	4.5	2.3	1.2
24	1.2	1.0	1.7	2.0	1.7	4.6	3.1	10	17	4.1	2.2	1.2
25	1.2	1.1	1.6	1.8	1.5	3.2	3.1	8.8	17	3.9	2.2	1.3
26	1.2	7.2	1.4	1.6	1.5	17	3.1	7.8	15	3.8	2.0	1.3
27	1.2	4.9	2.8	1.5	1.5	7.9	3.1	7.6	13	3.6	2.0	1.3
28	1.1	2.2	2.2	1.5	1.5	7.3	3.1	6.4	12	3.4	1.8	1.9
29	1.1	1.7	1.6	1.5	---	7.0	3.1	5.6	11	3.4	1.8	1.6
30	1.1	1.5	1.5	1.5	---	6.9	3.1	5.2	10	3.4	1.8	1.4
31	1.1	---	1.5	1.6	---	6.5	---	5.2	---	3.3	1.8	---
TOTAL	41.6	40.37	51.0	55.2	53.1	127.9	122.8	197.8	494.2	188.9	110.3	62.9
MEAN	1.34	1.35	1.65	1.78	1.90	4.13	4.09	6.38	16.5	6.09	3.56	2.10
MAX	1.8	7.2	2.8	3.3	6.7	17	6.1	37	39	9.6	11	9.0
MIN	1.1	.68	1.3	1.5	1.4	1.5	3.1	1.8	4.3	3.3	1.8	1.2
CFSM	.03	.03	.04	.04	.04	.10	.10	.15	.38	.14	.08	.05
IN.	.04	.03	.04	.05	.05	.11	.11	.17	.43	.16	.10	.05
AC-FT	83	80	101	109	105	254	244	392	980	375	219	125

CAL YR 1982	TOTAL	2356.94	MEAN 6.46	MAX 210	MIN .68	CFSM .15	IN 2.03	AC-FT 4670		
WTR YR 1983	TOTAL	1546.07	MEAN 4.24	MAX 39	MIN .68	CFSM .10	IN 1.33	AC-FT 3070		

08201500 SECO CREEK AT MILLER RANCH NEAR UTOPIA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 18...	1309	2.0	395	8.3	11.0	<1	.90	10.7	100	1.0	140	290
APR 19...	0951	3.8	414	8.2	19.5	<1	.40	9.8	112	1.1	K610	88
AUG 30...	1008	1.8	392	8.0	28.5	<1	1.0	8.1	108	.3	K960	58

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JAN 18...	180	43	55	11	7.0	.2	1.0	140	49	11	.20
APR 19...	200	55	62	12	7.4	.2	1.0	150	58	11	.20
AUG 30...	190	50	58	11	7.7	.3	1.0	140	50	13	.20

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, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 18...	8.6	227	<1	<1	<.020	.30	<.060	--	.60	.010	1.2
APR 19...	8.9	250	<1	<1	<.020	.10	.430	.07	.50	.020	2.4
AUG 30...	14	239	8	6	<.020	<.10	.050	.15	.20	<.010	1.4

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 18...	1309	<1	23	<1	<10	<1	<3
AUG 30...	1008	<1	27	<1	<10	<1	6

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 18...	<1	<1	<.1	1	<1	9
AUG 30...	<1	3	<.1	<1	<1	4

08201500 SECO CREEK AT MILLER RANCH NEAR UTOPIA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 18...	1309	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01
AUG 30...	1008	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
JAN 18...	<.01	<.01	<.01	<.01	<.01	--	<.01	<.01	<.01	<.01
AUG 30...	<.01	<.01	<.01	<.01	<.01	370	<.01	<.01	<.01	<.01

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 18...	<.01	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01
AUG 30...	<.01	<.01	<.01	<.10	<1	<.01	<.01	<.01	<.01	<.01

08202700 SECO CREEK AT ROWE RANCH NEAR D'HANIS, TX

LOCATION.--Lat 29°21'43", long 99°17'05", Medina County, Hydrologic Unit 12110107, on left bank 2.9 mi north of D'Hanis and 8.0 mi downstream from Rocky Creek.

DRAINAGE AREA.--168 mi².

PERIOD OF RECORD.--November 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 900.88 ft National Geodetic Vertical Datum of 1929. Prior to October 1970, published as "at Crook Ranch, near D'Hanis".

REMARKS.--Records good. All of low flow of Seco Creek enters Edwards and associated limestones in the Balcones Fault Zone, which crosses basin between Miller Ranch (station 08201500) and this station. No known diversion above station.

AVERAGE DISCHARGE.--22 years (water years 1962-83), 8.44 ft³/s (6,110 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,500 ft³/s July 15, 1973 (gage height, 26.0 ft, from floodmark), from rating curve extended above 16,000 ft³/s on basis of slope-area measurement of 35,800 ft³/s; no flow most of time each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1852, 35.7 ft May 31, 1935, from information by local resident. Other floods occurred Aug. 31, 1894, 33 ft; September 1919, 28 ft; July 2, 1932, 28.2 ft (discharge, 35,800 ft³/s), by slope-area measurement; and June 17, 1958, 32.4 ft.

EXTREMES FOR CURRENT YEAR.--No flow during year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR 1982 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00
WTR YR 1983 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00

Table 15.--Streamflow, spring flow, reservoir contents, and water-quality data for streams, October 1983 to September 1984

08167000 GUADALUPE RIVER AT COMFORT, TX

LOCATION.--Lat 29°58'10", long 98°53'33", Kendall County, Hydrologic Unit 12100201, on right bank at downstream side of southbound bridge on Interstate Highway 10, at Comfort, 0.5 mi downstream from Cypress Creek, and at mile 396.2.

DRAINAGE AREA.--839 mi².

PERIOD OF RECORD.--May 1939 to current year.

REVISED RECORDS.--WSP 1632: 1958. WSP 1732: 1939(M). WSP 2123: Drainage area, 1944(M), 1952(M), 1957(M), 1960(M).

GAGE.--Water-stage recorder. Datum of gage is 1,371.83 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 27, 1939, nonrecording gage. Nov. 27, 1939, to June 2, 1980, recording at gage site 0.4 mi upstream at datum 0.22 ft higher (revised).

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Many small diversions above station for irrigation. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--45 years (water years 1940-84), 183 ft³/s (132,600 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 240,000 ft³/s Aug. 2, 1978 (gage height, 40.90 ft), from high-water mark in well, from rating curve extended above 74,000 ft³/s on basis of current-meter measurement of 124,000 ft³/s at gage height 32.47 ft and slope-area measurement of 182,000 ft³/s at gage height 38.4 ft, made at former gaging station "near Comfort" 5 mi upstream; no flow at times in 1952-57, 1963-64. All stages are at site and datum then in use.
Maximum stage since at least 1848, that of Aug. 2, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1869 reached a stage of 40.3 ft, from report by Corps of Engineers. Flood of July 1, 1932, reached a stage of 38.4 ft, from floodmark, and from information by State Department of Highways and Public Transportation. Flood of July 16, 1900, reached about the same stage as that of July 1, 1932, from information by local residents. All stages are at site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 243 ft³/s May 20 at 0300 hours (gage height, 1.58 ft), no peak above base of 2,600 ft³/s; minimum daily, 1.8 ft³/s July 18, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	63	77	80	39	55	52	32	48	13.0	30.0	13.0
2	55	64	79	80	40	57	52	31	42	12.0	27.0	13.0
3	55	63	82	82	41	59	57	33	36	11.0	26.0	13.0
4	57	73	79	80	41	60	61	33	33	11.0	24.0	20.0
5	56	93	77	77	59	64	59	29	31	10.0	21.0	21.0
6	59	100	74	77	67	70	50	28	47	9.9	19.0	19.0
7	56	116	74	80	67	65	54	27	48	8.8	19.0	17.0
8	52	100	74	97	68	64	52	25	70	7.8	18.0	16.0
9	85	85	74	163	73	64	52	24	55	7.2	14.0	14.0
10	110	79	76	112	77	63	59	23	45	6.3	12.0	12.0
11	85	76	74	92	77	64	70	26	42	5.8	12.0	11.0
12	80	74	73	93	77	68	55	24	37	5.4	9.9	11.0
13	74	71	104	106	76	68	46	22	34	4.9	9.8	9.9
14	70	71	134	118	73	67	43	24	30	4.4	12.0	8.3
15	64	68	130	118	73	67	41	21	29	3.8	13.0	9.3
16	59	65	99	112	71	67	35	21	26	3.0	18.0	9.9
17	55	65	80	84	68	68	35	23	23	2.5	20.0	8.3
18	55	68	74	56	68	68	34	30	23	1.8	19.0	7.2
19	59	70	74	61	70	65	38	68	23	1.8	17.0	5.8
20	84	71	73	77	68	61	42	159	17	2.0	14.0	6.3
21	143	64	73	80	70	55	39	82	17	7.8	11.0	5.8
22	102	67	73	80	68	57	37	69	16	23.0	9.5	8.3
23	84	93	73	82	65	56	34	59	14	22.0	8.3	12.0
24	76	92	73	82	65	60	33	52	25	19.0	5.8	14.0
25	70	82	71	79	65	57	32	46	27	24.0	7.2	21.0
26	65	76	71	92	68	57	49	42	17	29.0	7.2	21.0
27	63	79	73	99	84	56	44	39	17	28.0	5.8	19.0
28	61	77	74	76	61	64	39	35	15	34.0	6.3	19.0
29	60	77	79	50	48	57	37	33	14	43.0	9.3	20.0
30	60	77	77	45	---	46	33	41	14	40.0	9.3	20.0
31	61	---	77	40	---	51	---	54	---	35.0	9.3	---
TOTAL	2170	2319	2495	2650	1887	1900	1364	1255	915	437.2	443.7	405.1
MEAN	70.0	77.3	80.5	85.5	65.1	61.3	45.5	40.5	30.5	14.1	14.3	13.5
MAX	143	116	134	163	84	70	70	159	70	43	30	21
MIN	52	63	71	40	39	46	32	21	14	1.8	5.8	5.8
AC-FT	4300	4600	4950	5260	3740	3770	2710	2490	1810	867	880	804

CAL YR 1983 TOTAL 34185.0 MEAN 93.7 MAX 414 MIN 32 AC-FT 67810
WTR YR 1984 TOTAL 18241.0 MEAN 49.8 MAX 163 MIN 1.8 AC-FT 36180

08167500 GUADALUPE RIVER NEAR SPRING BRANCH, TX

LOCATION (revised).--Lat 29°51'38", long 98°22'58", Comal County, Hydrologic Unit 12100201, on downstream side of bridge on Ranch Road 311, 1.9 mi southeast of Spring Branch Post Office, 7.5 mi downstream from Curry Creek, and at mile 334.4.

DRAINAGE AREA.--1,315 mi^2.

PERIOD OF RECORD.--June 1922 to current year.
Water-quality records.--Chemical Biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WSP 1562: 1923-24, 1926, 1927-28(M), 1929, 1930(M). WSP 2123: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 948.10 ft National Geodetic Vertical Datum of 1929. Prior to Jan. 14, 1981, at site 220 ft downstream at same datum.

REMARKS.--Records good. Several small diversions above station for irrigation. Several observations of water temperature were made during the year. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--62 years, 307 ft^3/s (222,400 acre-ft).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 160,000 ft^3/s Aug. 3, 1978 (gage height, 45.25 ft, from floodmark), from rating curve extended above 55,600 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in 1951-52, 1954-56, and 1963-64.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1859, about 53 ft in 1869; flood in July 1900 reached a stage of about 49 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,300 ft^3/s Oct. 9 at 1300 hours (gage height, 7.01 ft), no peak above base of 4,000 ft^3/s; minimum daily, 1.1 ft^3/s July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	91	110	104	73	91	65	42	35	14.0	30.0	8.5
2	58	91	111	111	71	81	69	41	47	12.0	29.0	9.7
3	57	93	121	111	68	88	69	45	46	10.0	26.0	8.5
4	56	93	119	111	67	89	68	40	43	7.4	24.0	17.0
5	55	171	116	108	66	90	70	38	47	6.4	22.0	26.0
6	55	859	112	106	64	90	73	39	55	7.7	21.0	21.0
7	54	254	107	104	83	91	73	38	60	12.0	20.0	16.0
8	54	208	106	107	97	91	72	35	72	11.0	18.0	18.0
9	975	180	103	135	100	88	74	32	54	9.3	16.0	19.0
10	316	151	107	209	100	88	68	31	66	8.1	15.0	19.0
11	154	136	106	172	106	87	64	30	59	7.0	15.0	18.0
12	129	128	104	136	113	90	65	30	50	6.4	14.0	16.0
13	119	122	103	126	108	90	74	29	47	5.2	43.0	14.0
14	98	118	108	121	108	90	64	31	42	4.4	50.0	12.0
15	91	113	161	143	106	91	57	29	37	3.4	26.0	11.0
16	84	108	163	145	104	88	54	28	35	3.0	19.0	9.7
17	82	107	152	145	101	87	52	30	31	2.6	38.0	8.5
18	81	108	121	135	103	89	50	34	29	2.1	33.0	7.7
19	81	107	108	102	99	89	49	37	28	1.4	22.0	6.7
20	94	104	104	85	100	86	50	38	26	1.4	19.0	6.0
21	139	104	105	90	99	84	47	103	24	1.1	18.0	8.9
22	199	109	101	105	99	82	47	105	22	1.4	17.0	9.7
23	161	108	101	114	101	78	49	75	22	2.8	16.0	9.3
24	139	106	100	112	99	77	46	66	20	3.0	14.0	8.5
25	119	139	97	110	96	76	45	58	19	2.2	12.0	8.0
26	106	125	98	106	98	79	45	52	16	1.8	9.7	7.2
27	100	119	100	105	94	78	44	47	15	4.6	8.5	6.0
28	96	112	101	119	93	71	44	43	21	16.0	8.1	6.5
29	94	112	98	120	110	69	49	40	20	48.0	7.4	15.0
30	93	113	98	94	---	75	45	39	18	34.0	6.0	17.0
31	92	---	101	77	---	75	---	36	---	27.0	6.0	---
TOTAL	4090	4489	3442	3668	2726	2618	1741	1361	1106	276.7	622.7	368.4
MEAN	132	150	111	118	94.0	84.5	58.0	43.9	36.9	8.93	20.1	12.3
MAX	975	859	163	209	113	91	74	105	72	48	50	26
MIN	54	91	97	77	64	69	44	28	15	1.1	6.0	6.0
AC-FT	8110	8900	6830	7280	5410	5190	3450	2700	2190	549	1240	731

CAL YR 1983 TOTAL 59199.0 MEAN 162 MAX 1890 MIN 47 AC-FT 117400
WTR YR 1984 TOTAL 26508.8 MEAN 72.4 MAX 975 MIN 1.1 AC-FT 52580

08167700 CANYON LAKE NEAR NEW BRAUNFELS, TX

LOCATION.--Lat 29°52'07", long 98°11'55", Comal County, Hydrologic Unit 12100201, in intake structure of Canyon Dam on Guadalupe River, 12 mi northwest of New Braunfels, and at mile 303.0.

DRAINAGE AREA.--1,432 mi².

PERIOD OF RECORD.--July 1962 to current year. Prior to October 1970, published as Canyon Reservoir.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Sept. 24, 1964, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 6,830 ft long, consisting of the main dam 4,410 ft long, an earthen dike 210 ft long, a 1,260-foot-long uncontrolled broad-crested-type spillway, and a 950-foot concrete and earthen nonoverflow section. Deliberate impoundment began June 16, 1964, and main part of dam was completed in August 1964. The flood-control outlet works consist of a 10.0-foot-diameter conduit controlled by two 5.7 by 10.0-foot hydraulically operated slide gates. The lake was built for water conservation and flood control. Capacity table beginning Oct. 1, 1974, is based on a sedimentation survey of August 1972. Small diversions above the lake for irrigation. Gage-height telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	974.0	-
Crest of spillway	943.0	736,700
Top of conservation pool	909.0	382,000
Lowest gated outlet (invert)	775.0	240

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 588,400 acre-ft Aug. 4, 1978 (elevation, 930.61 ft); minimum observed since conservation pool first reached in April 1968, 314,500 acre-ft Sept. 30, 1984 (elevation, 900.31 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 349,200 acre-ft Nov. 6 at 2400 hours (elevation, 904.91 ft); minimum daily, 314,500 acre-ft Sept. 30 at 2400 hours (elevation, 900.31 ft).

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

900.0	312,300	902.0	327,000	904.0	342,200
901.0	319,500	903.0	334,500	905.0	349,900

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	346400	347200	342600	341900	344200	342400	341100	337400	333800	331000	325400	320000
2	346400	347200	342900	342100	344200	342300	341200	337400	333700	330700	325300	319600
3	346300	347200	343200	342200	344000	342300	341000	337300	333600	330400	325200	319500
4	346300	347200	343200	342300	343900	342500	340900	337100	333700	330200	324800	319300
5	346200	348100	343200	342500	343800	342400	340700	336900	334100	330000	324700	319000
6	346100	349200	343000	342600	343600	342200	340600	336800	334200	329900	324400	318500
7	346000	349200	342900	342600	343400	342000	340700	336800	334100	329400	324200	318400
8	346000	348900	342900	343200	343500	341900	340700	336400	334100	329300	324000	318200
9	347500	348400	343100	343700	343600	341800	340600	336000	334100	329000	323800	318000
10	348000	347800	343200	343700	343600	341800	340500	335700	334000	328800	323600	317900
11	348300	347300	343200	343900	343600	341800	340400	335500	333900	328600	323500	317700
12	348100	346900	343000	344100	343800	341800	340300	335300	333900	328500	323300	317500
13	347900	346600	342900	344100	343700	341800	340200	335100	333900	328200	323400	317400
14	347700	346300	342900	344200	343700	341900	340000	335000	333800	327900	323600	317300
15	347700	345500	342800	344300	343700	341900	339900	334800	333700	327600	323800	317100
16	347600	345000	342900	344500	343600	342000	339600	334700	333500	327400	323600	316800
17	347600	344600	342900	344500	343600	342100	339400	335000	333200	327300	323400	316400
18	347600	344200	342900	344600	343600	342300	339300	335200	333100	327200	323300	316300
19	347500	343600	342600	344300	343500	342200	339200	335400	332900	327100	323100	316100
20	348000	342900	342600	344200	343500	342100	339200	335400	332700	327000	322900	316100
21	347800	342800	342600	344000	343300	341900	339100	335400	332500	326600	322700	316000
22	347800	343200	342300	344300	343200	341900	338800	335400	332200	326600	322400	315900
23	347800	342900	342300	344400	343200	342100	338600	335500	332000	326400	322200	315800
24	347800	342900	342000	344400	343000	341900	338400	335600	331900	326400	322100	315700
25	347800	342700	341700	344300	343000	341800	338300	335400	331800	326300	321900	315700
26	347700	342900	341800	344300	343100	341800	338300	335300	331600	326100	321800	315600
27	347500	342900	341700	344300	342800	341800	338100	335100	331400	326400	321500	315300
28	347400	342700	341900	344300	342600	341600	337900	335000	331300	326000	321300	315100
29	347400	342700	341600	344300	342400	341200	337900	334700	331300	325800	321100	314700
30	347400	342800	341600	344300	---	341200	337700	334400	331100	325700	320900	314500
31	347200	---	341600	344200	---	341000	---	334100	---	325500	320700	---
MAX	348300	349200	343200	344600	344200	342500	341200	337400	334200	331000	325400	320000
MIN	346000	342700	341600	341900	342400	341000	337700	334100	331100	325500	320700	314500
(†)	904.65	904.08	903.93	904.26	904.03	903.85	903.42	902.95	902.55	901.80	901.16	900.31
(‡)	+600	-4400	-1200	+2600	-1800	-1400	-3300	-3600	-3000	-5600	-4800	-6200

CAL YR 1983 MAX 365800 MIN 341600 ‡ -22200
WTR YR 1984 MAX 349200 MIN 314500 ‡ -32100

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

08167800 GUADALUPE RIVER AT SATTLER, TX

LOCATION.--Lat 29°51'32", long 98°10'47", Comal County, Hydrologic Unit 12100202, on right bank 200 ft upstream from Horseshoe Falls, 0.8 mi north of Sattler, 1.8 mi downstream from Canyon Dam, 2.3 mi upstream from Heiser Hollow, 11.2 mi north of New Braunfels, and at mile 301.2.

DRAINAGE AREA.--1,436 mi², of which 1,432 mi² is above Canyon Dam.

PERIOD OF RECORD.--March 1960 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 742.24 ft National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Records good. Flow completely regulated since July 21, 1962, by Canyon Lake (station 08167700) 1.8 mi upstream. Small diversions above station for irrigation. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--22 years (water years 1962-84) since regulation began at Canyon Lake, 380 ft³/s (275,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,800 ft³/s Oct. 29, 1960 (gage height, 12.20 ft). Maximum discharge since closure of Canyon Dam on July 21, 1962, 5,850 ft³/s Aug. 5, 1978 (gage height, 8.31 ft); no flow July 31 to Aug. 6, 1962 (result of closure of Canyon Dam), and part of Jan. 29, 30, Feb. 1, 1965 (result of closure while constructing present control).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1869 (stage unknown) has not been exceeded since that date; flood in July 1900 (stage unknown) exceeded 39 ft; maximum stage since at least 1904, 39 ft in July 1932 and June 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 355 ft³/s Sept. 1 at 0100 hours (gage height, 5.28 ft); minimum daily, 1.1 ft³/s Sept. 27-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	98	82	55	114	116	76	79	40	18.0	8.7	313.0
2	45	97	82	55	114	116	76	79	40	18.0	14.0	119.0
3	45	91	84	55	114	116	76	78	40	18.0	40.0	42.0
4	45	95	83	55	114	116	76	77	40	18.0	71.0	42.0
5	45	98	82	55	114	116	76	77	40	18.0	36.0	42.0
6	45	97	82	55	114	116	76	77	40	18.0	33.0	42.0
7	45	154	82	55	114	116	76	78	40	83.0	30.0	34.0
8	45	275	82	55	114	116	76	79	40	45.0	26.0	22.0
9	45	275	81	55	115	116	76	79	40	14.0	21.0	22.0
10	45	275	80	55	114	116	76	79	40	14.0	20.0	22.0
11	45	275	80	55	114	116	76	78	40	14.0	20.0	22.0
12	45	275	80	56	114	116	76	79	40	14.0	20.0	22.0
13	45	277	80	56	114	104	76	80	40	38.0	19.0	22.0
14	45	279	80	56	114	80	76	70	40	81.0	13.0	22.0
15	50	279	80	56	114	80	76	48	47	16.0	18.0	22.0
16	92	279	80	74	114	80	75	48	52	15.0	44.0	22.0
17	92	279	80	110	114	80	75	49	52	10.0	45.0	15.0
18	92	279	80	111	114	80	76	47	52	1.9	44.0	2.6
19	92	279	80	112	114	80	76	47	52	1.4	42.0	1.8
20	95	279	80	112	114	79	76	47	52	29.0	42.0	1.5
21	93	216	80	112	114	79	74	45	52	57.0	42.0	1.5
22	93	83	80	112	114	79	74	45	52	8.3	42.0	1.5
23	93	82	80	112	116	71	74	45	52	11.0	42.0	1.4
24	61	82	76	112	116	75	72	51	52	9.1	42.0	1.4
25	56	82	76	112	116	76	76	63	47	6.0	42.0	1.3
26	101	82	76	112	117	76	76	64	24	5.8	42.0	1.2
27	106	82	68	112	116	76	76	64	19	32.0	42.0	1.1
28	91	82	56	112	116	76	77	63	18	57.0	42.0	1.1
29	87	82	56	114	116	76	79	62	18	7.6	42.0	1.1
30	88	82	56	114	---	76	79	62	18	6.4	42.0	1.1
31	69	---	55	113	---	76	---	55	---	6.3	61.0	---
TOTAL	2081	5290	2379	2585	3322	2891	2275	1994	1219	690.8	1087.7	865.6
MEAN	67.1	176	76.7	83.4	115	93.3	75.8	64.3	40.6	22.3	35.1	28.9
MAX	106	279	84	114	117	116	79	80	52	83	71	313
MIN	45	82	55	55	114	71	72	45	18	1.4	8.7	1.1
AC-FT	4130	10490	4720	5130	6590	5730	4510	3960	2420	1370	2160	1720

CAL YR 1983 TOTAL 70370.0 MEAN 193 MAX 512 MIN 45 AC-FT 139600
WTR YR 1984 TOTAL 26680.1 MEAN 72.9 MAX 313 MIN 1.1 AC-FT 52920

GUADALUPE RIVER BASIN

08168000 HUECO SPRINGS NEAR NEW BRAUNFELS, TX

LOCATION.--Lat 29°45'34", long 98°08'24", Comal County, Hydrologic Unit 12100202, two springs located 1,700 ft (520 m) upstream from mouth of unnamed tributary which enters the Guadalupe River at Slumber Falls, and 4.2 mi (6.8 km) north of New Braunfels.

DRAINAGE AREA.--Not applicable.

PERIOD OF RECORD.--August 1944 to current year. Miscellaneous measurements only.

GAGE.--None.

REMARKS.--Discharge represents flow from springs. Surface runoff from precipitation is excluded. No diversion above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum spring discharge measured 131 ft^3/s (3.71 m^3/s) Jan. 21, 1968; no flow at times in 1948-49, 1951-57, 1963-64, 1967.

DISCHARGE MEASUREMENTS, IN CUBIC FEET PER SECOND
WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)
Oct. 17, 1983	8.04	Feb. 29, 1984	1.12	July 13, 1984	0
Dec. 1	4.55	Apr. 17	.83	Aug. 23	0
Jan. 24, 1984	2.01	May 31	.19		

08168500 GUADALUPE RIVER ABOVE COMAL RIVER AT NEW BRAUNFELS, TX

LOCATION.--Lat 29°42'53", long 98°06'35", Comal County, Hydrologic Unit 12100202, on right bank at New Braunfels, 1.1 mi upstream from Comal River, 21.9 mi downstream from Canyon Lake, and at mile 281.1.

DRAINAGE AREA.--1,518 mi².

PERIOD OF RECORD.--December 1927 to current year.

REVISED RECORDS.--WSP 898: 1935. WSP 1562: 1932. WSP 2123: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 586.65 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Small diversions for irrigation below station 08167800 and above this station. Since July 21, 1962, flow is largely regulated by Canyon Lake (station 08167700) 21.9 mi upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years (water years 1929-62) prior to regulation by Canyon Lake, 372 ft³/s (269,500 acre-ft/yr); 22 years (water years 1963-84) regulated, 466 ft³/s (337,600 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 101,000 ft³/s June 15, 1935 (gage height, 32.95 ft); no flow July 8, 9, July 17 to Aug. 20, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1845, 38 ft July 8, 1869, and in December 1913, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 358 ft³/s Sept. 1 at 1500 hours (gage height, 2.39 ft); minimum daily, 2.6 ft³/s Sept. 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	115	97	62	130	127	84	78	63	18.0	12	196.0
2	78	136	98	64	130	127	86	80	44	17.0	17	221.0
3	77	105	108	63	130	127	85	79	42	16.0	17	115.0
4	77	132	100	62	130	128	83	75	42	17.0	39	65.0
5	76	146	100	62	130	138	83	76	45	16.0	80	51.0
6	75	144	100	62	130	130	85	79	58	16.0	45	50.0
7	74	132	99	61	130	129	87	78	48	16.0	41	49.0
8	73	291	98	62	130	128	88	77	42	71.0	39	47.0
9	81	309	100	83	143	127	84	76	42	50.0	35	33.0
10	82	312	101	68	134	130	83	78	41	25.0	31	29.0
11	76	312	99	64	134	130	82	78	41	16.0	27	28.0
12	78	312	97	64	137	132	82	78	41	13.0	27	28.0
13	72	314	97	63	134	130	80	78	42	13.0	28	28.0
14	71	316	94	63	134	105	79	76	43	36.0	29	28.0
15	90	312	96	63	131	90	78	64	43	74.0	28	27.0
16	116	312	98	64	130	90	77	43	56	29.0	26	27.0
17	118	317	97	99	131	87	76	49	62	18.0	46	27.0
18	118	318	96	127	132	85	78	59	60	16.0	54	28.0
19	118	316	94	126	127	90	78	55	60	18.0	52	24.0
20	121	317	96	126	130	82	78	51	61	12.0	45	18.0
21	125	317	97	125	127	83	78	45	61	8.2	49	8.2
22	121	138	93	129	127	84	75	45	61	48.0	48	5.0
23	121	104	92	132	127	85	76	44	61	30.0	49	4.1
24	121	95	91	126	127	76	74	43	60	16.0	49	3.4
25	74	94	91	125	127	83	76	49	59	12.0	50	3.1
26	100	97	92	124	128	84	86	71	54	16.0	50	2.8
27	136	102	94	127	124	84	84	71	31	10.0	50	2.7
28	137	97	81	126	124	79	82	70	22	14.0	48	2.6
29	97	97	66	127	127	80	80	69	19	63.0	47	2.6
30	120	98	66	127	---	82	78	69	18	31.0	47	2.6
31	118	---	64	127	---	83	---	70	---	15.0	47	---
TOTAL	3019	6207	2892	2903	3775	3215	2425	2053	1422	770.2	1252	1156.1
MEAN	97.4	207	93.3	93.6	130	104	80.8	66.2	47.4	24.8	40.4	38.5
MAX	137	318	108	132	143	138	88	80	63	74	80	221
MIN	71	94	64	61	124	76	74	43	18	8.2	12	2.6
AC-FT	5990	12310	5740	5760	7490	6380	4810	4070	2820	1530	2480	2290

CAL YR 1983 TOTAL 89557.0 MEAN 245 MAX 659 MIN 64 AC-FT 177600
WTR YR 1984 TOTAL 31089.3 MEAN 84.9 MAX 318 MIN 2.6 AC-FT 61670

08169000 COMAL RIVER AT NEW BRAUNFELS, TX

LOCATION.--Lat 29°42'21", long 98°07'20", Comal County, Hydrologic Unit 12100202, on right bank 200 ft upstream from San Antonio Street viaduct in New Braunfels and 1.1 mi upstream from mouth.

DRAINAGE AREA.--130 mi². Normal flow of river comes from springs; drainage area not applicable.

PERIOD OF RECORD.--1882 to current year (1882 to November 1927, discharge measurements only).

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1955. Datum of gage is 582.80 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. The flow from Comal Springs emerges from the Edwards and associated limestones in the Balcones Fault Zone. Except during periods of rainfall, flow of river is primarily from Comal Springs about 1.0 mi upstream. Flow is affected at times by cleanup operations by the city of New Braunfels at Landa Park Lake and at times by discharge from the flood-detention pools of five floodwater-retarding structures with a combined detention capacity of 17,580 acre-ft. These structures control runoff from 74.6 mi². Several observation of water temperature were made during the year.

AVERAGE DISCHARGE.--52 years (water years 1933-84), 295 ft³/s (213,700 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,800 ft³/s May 11, 1972 (gage height, 36.55 ft, from floodmark), from rating curve extended above 13,000 ft³/s on basis of contracted-opening measurements on Blieders and Dry Comal Creeks and unit rainfall-runoff studies; no flow from Comal Springs from June 13 to Nov. 3, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood information begins with flood of July 8, 1869, which reached a stage of 36.91 ft, from painted and dated marks in old Remmert Brewery 0.5 mi downstream; the flood of Oct. 17, 1870, reached a stage of 37.65 ft at same site (probably some backwater from Guadalupe River).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 578 ft³/s Feb. 9 at 0300 hours (gage height, 4.78 ft), no peak above base of 1,100 ft³/s; minimum daily, 26 ft³/s July 18, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	197	208	226	219	222	211	184	112	88	49	34	27
2	201	208	226	219	222	211	180	115	90	55	32	30
3	199	211	234	219	229	208	174	112	88	51	28	40
4	194	211	230	219	219	208	165	91	90	49	29	44
5	191	222	230	219	222	208	168	92	84	49	29	47
6	191	237	226	215	219	204	165	98	102	39	29	48
7	194	222	226	215	219	201	165	92	94	40	28	49
8	197	219	226	219	219	201	168	98	96	34	28	52
9	201	219	226	230	270	201	168	98	92	39	28	54
10	204	219	226	222	222	201	159	94	92	33	28	54
11	204	219	230	219	219	204	153	90	92	33	29	52
12	208	222	230	222	219	208	153	86	86	34	28	51
13	204	219	226	222	215	204	150	84	88	27	32	45
14	208	226	226	222	215	204	147	88	92	32	35	41
15	208	219	222	222	215	204	147	80	88	33	39	39
16	211	219	222	226	215	201	147	82	92	34	45	39
17	211	219	222	226	215	204	144	98	90	27	47	41
18	208	222	226	222	215	204	144	103	90	26	47	40
19	208	222	226	226	215	204	139	117	80	28	47	40
20	208	222	226	226	219	201	133	115	78	27	48	40
21	211	222	226	226	215	201	133	120	78	28	44	41
22	211	222	226	234	215	201	128	120	67	30	41	44
23	211	226	222	230	215	201	141	115	67	32	40	45
24	211	222	222	230	215	197	130	110	60	26	45	42
25	211	226	222	230	215	194	125	110	57	32	40	41
26	211	226	222	234	215	194	117	107	48	35	40	41
27	215	226	222	230	215	187	112	105	47	32	42	42
28	211	226	219	234	211	184	112	103	48	35	39	42
29	215	226	219	230	214	184	117	105	45	35	37	48
30	215	226	219	222	---	184	120	98	47	37	37	52
31	215	---	219	222	---	180	---	96	---	36	32	---
TOTAL	6384	6633	6970	6951	6355	6199	4388	3134	2356	1097	1127	1311
MEAN	206	221	225	224	219	200	146	101	78.5	35.4	36.4	43.7
MAX	215	237	234	234	270	211	184	120	102	55	48	54
MIN	191	208	219	215	211	180	112	80	45	26	28	27
AC-FT	12660	13160	13820	13790	12610	12300	8700	6220	4670	2180	2240	2600

CAL YR 1983 TOTAL 86736 MEAN 238 MAX 471 MIN 171 AC-FT 172000
WTR YR 1984 TOTAL 52905 MEAN 145 MAX 270 MIN 26 AC-FT 104900

COMAL SPRINGS AT NEW BRAUNFELS, TX

LOCATION.--Lat 29°42'21", long 98°07'20", Comal County, Hydrologic Unit 12100202, on right bank 200 ft (61 m) upstream from San Antonio Street viaduct in New Braunfels and 1.1 mi (1.8 km) upstream from mouth.

DRAINAGE AREA.--Not applicable. Flow at station has been corrected to reflect only flow from Comal Springs.

PERIOD OF RECORD.--1882 to current year (1882 to November 1927, discharge measurements only).

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1955. Datum of gage is 582.80 ft (177.637 m) National Geodetic Vertical Datum of 1929.

REMARKS.--The flow from Comal Springs emerges from the Edwards and associated limestones in the Balcones Fault Zone. Except during period of rainfall, flow of river is primarily from Comal Springs about 1.0 mi (1.6 km) upstream. Flow at gaging station 08169000 Comal River at New Braunfels, Tex. has been corrected to reflect only that flow from Comal Springs.

AVERAGE DISCHARGE.--57 years (water years 1928-84), 286 ft^3/s (8.213 m^3/s), 207,700 acre-ft/yr (259 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily spring discharge, 534 ft^3/s (15.121 m^3/s) Oct. 16, 1973; no flow June 13 to Nov. 4, 1956.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	197	208	226	219	222	211	184	114	88	49	34	37
2	201	208	226	219	222	211	180	115	90	55	32	40
3	199	211	234	219	229	208	174	112	88	51	28	41
4	194	211	230	219	219	208	165	107	90	49	29	44
5	191	222	230	219	222	208	168	103	84	49	29	47
6	191	222	226	215	219	204	165	98	90	39	29	48
7	194	222	226	215	219	201	165	92	94	40	28	49
8	197	219	226	219	219	201	168	96	96	34	28	52
9	201	219	226	226	238	201	165	98	92	39	28	54
10	201	219	226	222	222	201	159	94	92	33	28	54
11	204	219	230	219	219	204	153	90	92	33	29	52
12	208	222	230	222	219	208	153	86	86	34	28	51
13	204	219	226	222	215	204	150	84	88	27	32	48
14	208	226	226	222	215	204	147	88	92	32	35	47
15	208	219	222	222	215	204	147	80	88	33	39	44
16	211	219	222	226	215	201	147	82	92	34	45	41
17	211	219	222	226	215	204	144	92	90	27	47	41
18	208	222	226	222	215	204	144	100	90	26	47	40
19	208	222	226	226	215	204	139	115	80	28	47	40
20	208	222	226	226	219	201	133	115	78	27	48	40
21	211	222	226	226	215	201	133	120	78	28	44	41
22	211	222	226	234	215	201	128	120	67	30	41	44
23	211	226	222	230	215	201	136	115	67	32	40	45
24	211	222	222	230	215	197	130	110	60	26	41	42
25	211	226	222	230	215	194	125	110	57	32	40	41
26	211	226	222	234	215	194	117	107	48	34	40	41
27	215	226	222	230	215	187	112	105	47	32	42	42
28	211	226	219	234	211	184	112	103	48	35	39	42
29	215	226	219	230	214	184	117	105	45	35	37	48
30	215	226	219	222	--	184	120	98	47	37	37	52
31	215	--	219	222	--	180	--	96	--	36	36	--
TOTAL	6,381	6,618	6,970	6,947	6,323	6,199	4,380	3,150	2,344	1,096	1,127	1,348
MEAN	206	221	225	224	218	200	146	102	78.1	35.4	36.4	44.9
MAX	215	226	234	234	238	211	184	120	96	55	48	54
MIN	191	208	219	215	211	180	112	80	45	26	28	37

CAL YR 1983	TOTAL	86,264	MEAN	236	MAX	340	MIN	171	AC-FT	171,100
WTR YR 1984	TOTAL	52,883	MEAN	144	MAX	238	MIN	26	AC-FT	104,900

08170000 SAN MARCOS RIVER SPRINGFLOW AT SAN MARCOS, TX

LOCATION.--Lat 29°52'06", long 97°55'38", Hays County, Hydrologic Unit 12100203, on left bank 0.7 mi downstream from bridge on Interstate Highway 35 and U.S. Highway 81, 1.2 mi southeast of courthouse in San Marcos, and 2.1 mi upstream from Blanco River.

DRAINAGE AREA.--93.0 mi². Normal flow of river comes from springs, drainage area of stream not applicable.

PERIOD OF RECORD.--May 1956 to current year. June 1915 to January 1916, March 1916 to September 1921, and May to September 1956, published as San Marcos River at San Marcos; records include some surface runoff. Periodic measurements of springflow were made at this location outside periods of records since Nov. 14, 1894, and are published as miscellaneous measurements.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 536.82 ft National Geodetic Vertical Datum of 1929. June 10, 1915, to Jan. 19, 1916, nonrecording gage at site 1.2 mi upstream, and Mar. 13, 1916, to Sept. 7, 1921, water-stage recorder near present site, datum relations unknown.

REMARKS.--Records good. Flow slightly regulated by utilities dam about 1.5 mi upstream. Flow is affected at times by discharge from flood-detention pool of a floodwater-retarding structure with detention capacity of 8,580 acre-ft. This structure controls runoff from 33.6 mi². Entire flow of river is from San Marcos Springs, about 1.8 mi upstream, except during period of local runoff. Springs emerge from the Edwards and associated limestones in the Balcones Fault Zone. Small diversion for operation of State fish hatchery, some of which is returned above gage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--28 years (water years 1957-84), 164 ft³/s (118,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily spring discharge (estimated), 350 ft³/s June 20, 1981; maximum discharge, 76,600 ft³/s May 15, 1970 (gage height, 35.12 ft); minimum daily spring discharge, 46 ft³/s Aug. 15, 16, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1913, 38.6 ft Sept. 10, 1921 (from floodmark, backwater from Blanco River), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum daily spring discharge, 144 ft³/s Oct. 10; maximum gage height, 4.23 ft Aug. 14 at 2300 hours (flood runoff); minimum daily spring discharge, 64 ft³/s Sept. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	129	128	132	129	112	111	101	99	94	73	74
2	140	129	131	131	129	115	113	103	101	93	73	72
3	137	130	135	130	129	116	111	104	101	91	75	76
4	137	131	132	131	129	114	108	104	100	92	75	74
5	138	138	133	131	129	119	105	105	98	92	76	74
6	138	139	130	132	126	119	107	102	102	89	72	74
7	137	138	130	131	125	117	111	101	101	89	69	74
8	137	132	131	132	126	114	111	98	101	90	69	74
9	141	130	132	135	127	118	107	94	104	90	68	72
10	144	130	132	129	126	117	104	95	106	88	69	72
11	141	133	131	130	122	116	104	93	104	88	71	72
12	140	133	133	128	120	119	106	97	105	86	74	72
13	138	132	131	127	118	116	102	99	107	85	71	71
14	136	134	131	129	118	118	103	97	107	87	72	71
15	137	133	133	129	117	116	106	94	106	87	85	71
16	137	132	132	128	117	116	107	95	106	84	79	70
17	135	132	132	129	118	115	106	98	104	83	81	69
18	133	131	131	126	119	111	105	99	101	84	80	64
19	133	133	133	126	117	112	107	102	100	85	80	66
20	135	134	132	125	119	112	106	103	96	87	81	70
21	132	134	133	125	120	110	106	101	94	88	76	74
22	133	133	132	127	120	110	105	98	95	88	76	75
23	135	135	132	130	120	111	104	98	97	84	75	75
24	134	132	128	126	119	109	102	98	97	83	75	72
25	134	133	129	127	118	110	101	99	97	83	74	71
26	135	135	131	126	119	109	100	102	96	81	74	72
27	135	138	129	126	117	109	100	101	94	76	74	71
28	132	132	128	127	116	106	104	100	91	74	74	71
29	132	130	127	128	113	108	103	99	96	76	74	76
30	132	127	128	127	---	108	100	99	95	77	74	76
31	131	---	129	126	---	107	---	98	---	76	74	---
TOTAL	4219	3982	4059	3986	3522	3509	3165	3077	3001	2650	2313	2165
MEAN	136	133	131	129	121	113	106	99.3	100	85.5	74.6	72.2
MAX	144	139	135	135	129	119	113	105	107	94	85	76
MIN	131	127	127	125	113	106	100	93	91	74	68	64
AC-FT	8370	7900	8050	7910	6990	6960	6280	6100	5950	5260	4590	4290

CAL YR 1983 TOTAL 53573 MEAN 147 MAX 218 MIN 108 AC-FT 106300
WTR YR 1984 TOTAL 39648 MEAN 108 MAX 144 MIN 64 AC-FT 78640

08171000 BLANCO RIVER AT WIMBERLEY, TX

LOCATION.--Lat 29°59'39", long 98°05'19", Hays County, Hydrologic Unit 12100203, on left bank at downstream side of highway, near left end of bridge on Ranch Road 12, 0.3 mi southeast of Wimberley, 2,200 ft downstream from Cypress Creek, and at mile 29.0.

DRAINAGE AREA.--355 mi^2.

PERIOD OF RECORD.--August 1924 to September 1926, June 1928 to current year.

REVISED RECORDS.--WSP 1562: 1929, 1930-31(M), 1935-36(M), 1938(M), 1941-42(M), 1947(M), 1949(M). WSP 2123: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 797.23 ft National Geodetic Vertical Datum of 1929. Aug. 6, 1924, to Sept. 30, 1926, nonrecording gage at site 1,030 ft upstream at datum 5.00 ft higher. Recording gage from June 6, 1928, to June 12, 1975, at site 1,000 ft upstream at datum 5.00 ft higher.

REMARKS.--Records good. Numerous small diversions above station. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--58 years (water years 1925-26, 1929-84), 121 ft^3/s (4.63 in/yr), 87,660 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 113,000 ft^3/s May 28, 1929 (gage height, 33.3 ft, from floodmark), present site and datum, from rating curve extended above 30,000 ft^3/s on basis of slope-area measurements of 95,000 and 113,000 ft^3/s; minimum, 0.6 ft^3/s Aug. 16, 1956.
Maximum stage since at least 1869, that of May 28, 1929.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1869 reached a stage of 25 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,910 ft^3/s Oct. 9 at 1530 hours (gage height, 7.52 ft), no other peak above base of 1,800 ft^3/s; minimum daily, 10 ft^3/s Sept. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	37	45	39	46	34	31	18	16	23	13	11
2	38	37	45	40	47	36	32	17	16	23	14	13
3	37	36	55	39	46	37	30	17	16	21	13	15
4	38	36	48	40	44	38	30	15	16	18	13	17
5	37	53	49	40	44	39	30	15	53	17	13	14
6	37	50	45	42	43	35	29	15	65	17	13	13
7	37	71	44	41	44	34	30	15	99	17	14	12
8	37	74	44	41	43	35	31	13	79	16	12	13
9	552	65	45	54	41	34	29	12	57	16	12	14
10	288	58	45	44	41	34	30	13	49	16	11	13
11	111	58	43	51	42	33	32	12	42	15	11	13
12	76	57	42	53	43	34	31	13	42	15	11	12
13	57	55	41	50	40	35	29	13	35	15	12	13
14	55	55	45	49	41	35	29	13	37	14	12	13
15	52	53	44	48	43	36	27	12	30	14	27	11
16	57	51	45	45	40	37	28	11	29	13	20	10
17	50	52	41	45	40	35	25	14	26	13	15	11
18	45	52	41	43	42	37	23	22	24	14	14	14
19	45	51	41	43	39	39	23	24	22	19	13	14
20	58	47	41	43	39	35	22	46	22	17	13	13
21	54	49	40	43	38	39	21	85	21	15	13	15
22	44	50	39	45	38	40	21	57	20	14	13	17
23	47	50	40	47	40	41	22	47	20	16	13	16
24	46	46	39	45	41	37	20	38	20	16	12	14
25	44	46	48	45	38	36	20	32	19	15	12	13
26	42	47	37	45	41	39	21	27	18	14	13	11
27	41	49	38	45	35	35	20	24	17	13	13	11
28	40	44	41	45	35	31	18	22	20	14	11	12
29	38	46	39	48	35	33	19	21	25	13	11	13
30	38	47	37	49	---	33	18	17	28	12	11	13
31	37	---	38	45	---	32	---	17	---	11	11	---
TOTAL	2217	1522	1325	1392	1189	1108	771	717	983	486	409	394
MEAN	71.5	50.7	42.7	44.9	41.0	35.7	25.7	23.1	32.8	15.7	13.2	13.1
MAX	552	74	55	54	47	41	32	85	99	23	27	17
MIN	37	36	37	39	35	31	18	11	16	11	11	10
CFSM	.20	.14	.12	.13	.12	.10	.07	.07	.09	.04	.04	.04
IN.	.23	.16	.14	.15	.12	.12	.08	.08	.10	.05	.04	.04
AC-FT	4400	3020	2630	2760	2360	2200	1530	1420	1950	964	811	781

CAL YR 1983	TOTAL	31707	MEAN 86.9	MAX 1210	MIN 24	CFSM .25	IN 3.32	AC-FT	62890	
WTR YR 1984	TOTAL	12513	MEAN 34.2	MAX 552	MIN 10	CFSM .10	IN 1.31	AC-FT	24820	

08171300 BLANCO RIVER NEAR KYLE, TX

LOCATION.--Lat 29°58'45", long 97°54'35", Hays County, Hydrologic Unit 12100203, on left bank 800 ft downstream from Tarbutton Ranch House (Hatchett Ranch), 2.2 mi southwest of Kyle, 4.2 mi downstream from Halifax Creek, and 6.3 mi upstream from bridge on U.S. Highway 81.

DRAINAGE AREA.--412 mi².

PERIOD OF RECORD.--May 1956 to current year.

REVISED RECORDS.--WSP 1923: 1957-58, 1960(M). WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 620.12 ft Corps of Engineers datum.

REMARKS.--Records good. Small diversions above station for irrigation. Most of the low flow of the Blanco River enters the Edwards and associated limestones in the Balcones Fault Zone which crosses the basin upstream from this station and below the station at Wimberley. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--28 years, 143 ft³/s (4.71 in/yr), 103,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 98,000 ft³/s May 2, 1958 (gage height, 36.3 ft, from floodmark), from rating curve extended above 37,000 ft³/s on basis of slope-area measurement of 139,000 ft³/s and slope-conveyance study; no flow at times in 1956-57, 1963-65, 1967, 1971, 1978, and 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1882, about 40 ft in May 1929, from information by local residents (discharge, 139,000 ft³/s). Flood of Sept. 11, 1952, reached a stage of 38.0 ft (discharge, 115,000 ft³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,870 ft³/s Oct. 9 at 2100 hours (gage height, 9.82 ft), no peak above base of 2,500 ft³/s; no flow July 10 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	23	32	26	31	23	16	4.8	3.7	2.8	.00	.00
2	17	23	32	27	32	22	16	4.7	3.3	2.0	.00	.00
3	16	23	43	28	32	22	15	5.9	3.1	2.6	.00	.00
4	16	23	38	27	30	22	13	4.7	3.2	1.5	.00	.00
5	15	29	35	27	30	24	13	3.6	5.7	.65	.00	.00
6	15	41	34	27	29	24	13	3.0	23	.39	.00	.00
7	14	41	32	26	29	21	13	2.8	34	.29	.00	.00
8	14	50	31	27	29	21	15	2.6	41	.22	.00	.00
9	271	50	32	41	31	20	14	1.9	21	.08	.00	.00
10	429	42	32	33	30	20	12	1.5	15	.00	.00	.00
11	116	39	31	30	29	20	12	1.3	13	.00	.00	.00
12	75	39	29	35	29	21	12	1.1	11	.00	.00	.00
13	44	39	29	35	28	21	12	1.0	10	.00	.00	.00
14	38	38	29	34	27	20	11	.91	7.5	.00	.00	.00
15	35	36	28	34	27	20	11	.84	7.7	.00	.00	.00
16	34	34	30	33	26	21	10	.79	5.6	.00	.00	.00
17	36	34	29	33	26	20	10	.97	4.7	.00	.00	.00
18	30	34	27	33	27	19	9.9	4.7	4.0	.00	.00	.00
19	28	34	27	32	26	27	9.1	9.5	3.5	.00	.00	.00
20	29	32	28	31	26	21	8.7	10	3.2	.00	.00	.00
21	47	32	29	31	26	19	8.0	27	2.5	.00	.00	.00
22	30	34	28	32	24	20	6.4	34	1.9	.00	.00	.00
23	28	40	28	37	25	21	6.1	23	1.5	.00	.00	.00
24	29	33	26	35	25	21	6.9	19	1.1	.00	.00	.00
25	28	32	24	34	25	18	6.4	15	.91	.00	.00	.00
26	26	33	28	33	28	19	6.6	12	.87	.00	.00	.00
27	25	36	28	32	26	19	6.7	9.3	.70	.00	.00	.00
28	24	35	28	32	23	16	5.6	7.4	.54	.00	.00	.00
29	24	33	26	33	22	14	5.3	6.1	1.5	.00	.00	.00
30	24	33	25	32	---	16	5.1	5.3	1.9	.00	.00	.00
31	23	---	26	32	---	16	---	4.3	---	.00	.00	---
TOTAL	1597	1045	924	982	798	628	308.8	229.01	236.62	10.53	.00	.00
MEAN	51.5	34.8	29.8	31.7	27.5	20.3	10.3	7.39	7.89	.34	.000	.000
MAX	429	50	43	41	32	27	16	34	41	2.8	.00	.00
MIN	14	23	24	26	22	14	5.1	.79	.54	.00	.00	.00
CFSM	.13	.08	.07	.08	.07	.05	.03	.02	.02	.001	.000	.000
IN.	.14	.09	.08	.09	.07	.06	.03	.02	.02	.00	.00	.00
AC-FT	3170	2070	1830	1950	1580	1250	613	454	469	21	.00	.00

CAL YR 1983 TOTAL 26846.00 MEAN 73.6 MAX 1580 MIN 14 CFSM .18 IN 2.42 AC-FT 53250
WTR YR 1984 TOTAL 6758.96 MEAN 18.5 MAX 429 MIN .00 CFSM .05 IN .61 AC-FT 13410

08172400 PLUM CREEK AT LOCKHART, TX

LOCATION.--Lat 29°55'22", long 97°40'44", Caldwell County, Hydrologic Unit 12100203, on right bank 548 ft upstream from bridge on U.S. Highway 183, 2.7 mi north of Lockhart, 3.7 mi upstream from Town Creek, 5.0 mi downstream from Brushy Creek, and 30.4 mi upstream from mouth.

DRAINAGE AREA.--112 mi^2.

PERIOD OF RECORD.--April 1959 to current year.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 431.19 ft National Geodetic Vertical Datum of 1929. Apr. 30, 1959, to July 25, 1968, at site 548 ft downstream at present datum.

REMARKS.--Records good. No known diversion above station. Flow at times is affected by discharge from the flood-detention pools of 17 floodwater-retarding structures with a combined detention capacity of 24,850 acre-ft. These structures control runoff from 67.8 mi^2 above this station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 45.9 ft^3/s (33,250 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,600 ft^3/s Oct. 29, 1960 (gage height, 20.62 ft); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1905, 22 ft in June 1936 at present site; flood in 1951 reached a stage of 20 ft at present site, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 130 ft^3/s Jan. 9 at 1230 hours (gage height, 5.42 ft), no peak above base of 2,000 ft^3/s; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	.07	3.6	1.4	2.6	1.90	.96	0	0	0	0	0
2	.24	.03	3.7	1.5	2.7	1.60	.96	0	0	0	0	0
3	.15	.02	4.6	1.6	2.6	1.50	.95	0	0	0	0	0
4	.08	.01	4.6	1.8	2.4	1.60	.88	0	0	0	0	0
5	.02	2.60	4.9	2.0	2.4	2.70	.75	0	0	0	0	0
6	.00	22.00	4.0	2.0	2.2	3.10	.67	0	0	0	0	0
7	.00	39.00	3.5	2.0	2.1	2.20	.67	0	0	0	0	0
8	.00	12.00	2.9	1.9	2.0	1.90	.61	0	0	0	0	0
9	.00	7.20	2.5	54.0	20.0	1.60	.43	0	0	0	0	0
10	.03	4.90	2.4	14.0	8.1	1.50	.25	0	0	0	0	0
11	.29	3.10	2.4	8.7	4.9	1.50	.16	0	0	0	0	0
12	1.40	1.90	2.2	6.1	4.1	1.60	.12	0	0	0	0	0
13	1.00	1.30	2.0	4.5	3.9	1.80	.09	0	0	0	0	0
14	1.40	1.10	1.8	4.0	3.6	1.80	.08	0	0	0	0	0
15	.88	1.10	1.5	3.6	3.1	1.90	.06	0	0	0	0	0
16	.72	.86	1.5	3.3	2.6	1.90	.03	0	0	0	0	0
17	.59	.86	1.4	3.2	2.5	1.80	.02	0	0	0	0	0
18	.44	.82	1.3	2.9	2.4	2.00	.00	0	0	0	0	0
19	.29	.79	1.6	2.6	2.2	2.50	.00	0	0	0	0	0
20	.28	.67	1.5	2.6	2.4	3.20	.00	0	0	0	0	0
21	1.90	.88	1.5	2.5	2.4	3.40	.00	0	0	0	0	0
22	3.00	1.20	1.6	2.4	2.4	2.60	.00	0	0	0	0	0
23	1.20	1.80	1.5	2.9	2.3	2.30	.00	0	0	0	0	0
24	.78	2.10	1.3	3.9	2.2	2.00	.00	0	0	0	0	0
25	.49	3.00	1.1	4.2	2.1	1.60	.00	0	0	0	0	0
26	.31	2.50	1.1	4.0	2.0	1.60	.00	0	0	0	0	0
27	.24	2.30	1.2	3.7	1.9	1.50	.00	0	0	0	0	0
28	.25	8.90	1.6	3.5	1.8	1.20	.00	0	0	0	0	0
29	.26	6.30	1.5	3.2	1.9	.97	.00	0	0	0	0	0
30	.19	4.40	1.4	3.0	---	1.00	.00	0	0	0	0	0
31	.10	---	1.3	2.7	---	.92	---	0	---	0	0	---
TOTAL	16.81	133.71	69.0	159.7	97.8	58.69	7.69	0	0	0	0	0
MEAN	.54	4.46	2.23	5.15	3.37	1.89	.26	.000	.000	.000	.000	.000
MAX	3.0	39	4.9	54	20	3.4	.96	.00	.00	.00	.00	.00
MIN	.00	.01	1.1	1.4	1.8	.92	.00	.00	.00	.00	.00	.00
AC-FT	33	265	137	317	194	116	15	.00	.00	.00	.00	.00

CAL YR 1983	TOTAL	13648.30	MEAN	37.4	MAX	2210	MIN	.00	AC-FT	27070
WTR YR 1984	TOTAL	543.40	MEAN	1.48	MAX	54	MIN	.00	AC-FT	1080

GUADALUPE RIVER BASIN

08178620 LORENCE CREEK AT THOUSAND OAKS BOULEVARD, SAN ANTONIO, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°35'24", long 98°27'47", Bexar County, Hydrologic Unit 123100301, on right bank 30 ft upstream from Thousand Oaks Boulevard and 4.2 mi upstream from mouth.

DRAINAGE AREA.--4.05 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Digital recorders (stage and rainfall), concrete control, and crest-stage gages. Gage is not referenced to National Geodetic Vertical Datum of 1929. (Gage removed Sept. 5-30, 1984.)

REMARKS.--Water-discharge records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 5.90 ft May 6, 1982 (discharge not determined); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15 ft^3/s May 18 at 1035 hours (gage height, 1.48 ft), no peak above base of 100 ft^3/s; no flow most of time.

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
SEP											
03-03	1622	8.0	103	--	--	700	800	--	--	6.3	100000
03-03	1652	5.1	94	--	--	700	870	--	--	4.9	100000
03-03	1722	3.8	96	--	--	600	670	--	--	4.9	--
03-03	1753	3.3	96	8.2	25.0	500	590	6.5	81	4.9	66000

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
SEP											
03-03	94000	--	--	--	--	--	--	--	--	--	--
03-03	80000	38	7	14	.70	2.3	.2	3.6	31	11	2.3
03-03	--	--	--	--	--	--	--	--	--	--	--
03-03	48000	40	10	15	.70	2.5	.2	3.8	30	12	1.9

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
SEP											
03-03	--	--	--	1150	150	.38	.55	.120	.020	.50	.57
03-03	.20	5.2	58	3650	200	.40	--	.100	--	.50	.55
03-03	--	--	--	1800	100	--	--	--	--	--	--
03-03	.30	5.9	60	1800	140	.38	--	.120	--	.50	.48

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
SEP										
03-03	.060	.040	1.4	.36	1.5	.40	.520	.050	.050	18
03-03	.040	--	.86	--	.90	.70	.310	.050	--	28
03-03	--	--	--	--	--	--	--	--	--	--
03-03	.050	--	--	--	<.20	--	.300	.060	--	20

08178620 LORENCE CREEK AT THQUSAND OAKS BOULEVARD, SAN ANTONIO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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)
SEP							
03-03	1622	1	15	<1	<10	7	51
03-03	1753	1	15	<1	<10	2	75

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)
SEP						
03-03	4	7	<.1	<1	<1	<3
03-03	3	7	<.1	<1	<1	<3

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
SEP										
03-03	1622	<.1	<.10	<.01	<.1	<.01	<.01	<.01	.06	<.01
03-03	1753	<.1	<.10	<.01	<.1	<.01	<.01	<.01	.04	<.01

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
SEP										
03-03	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
03-03	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
SEP									
03-03	<.01	<.01	<.1	<1	<.01	.03	<.01	<.01	<.01
03-03	<.01	<.01	<.1	<1	<.01	.01	<.01	<.01	<.01

GUADALUPE RIVER BASIN

08178640 WEST ELM CREEK AT SAN ANTONIO, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°37'23", long 98°26'29", Bexar County, Hydrologic Unit 12100301, at mid-channel, 1.8 mi (2.9 km) upstream from mouth of East Elm Creek, 2.1 mi (3.4 km) upstream from Farm Road 1604, and 7.0 mi (11.3 km) north of San Antonio International Airport.

DRAINAGE AREA.--2.45 mi^2 (6.35 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Digital recorders (stage and rainfall) and crest-stage gages. Gage is not referenced to National Geodetic Vertical Datum of 1929.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 841 ft^3/s (23.8 m^3/s) May 6, 1982, gage height, 6.79 ft (2.070 m).

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, pesticide, and bacteria analyses: May 1976 to current year. Water temperatures: May 1976 to current year.

WATER-QUALITY.--No samples obtained during current year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13 ft^3/s Sept. 3, gage height 3.06 ft; no flow most of time.

GUADALUPE RIVER BASIN

08178645 EAST ELM CREEK AT SAN ANTONIO, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°37'04", long 98°25'41", Bexar County, Hydrologic Unit 12100301, at mid-channel, 2.1 mi (3.4 km) upstream from Farm Road 1604, and 6.90 mi (11.1 km) north of San Antonio International Airport.

DRAINAGE AREA.--2.33 mi^2 (6.03 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Digital recorders (stage and rainfall) and crest-stage gages. Gage is not referenced to National Geodetic Vertical Datum of 1929.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 435 ft^3/s (12.3 m^3/s) May 6, 1982, gage height, 7.96 ft (2.426 m).

EXTREMES FOR CURRENT YEAR.--No peak discharges above base of 100 ft^3/s (2.83 m^3/s).

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and bacteria analyses: May 1976 to current year. Water temperatures: May 1976 to current year.

REMARKS.--No samples obtained during current year.

GUADALUPE RIVER BASIN

08178650 ELM CREEK RESERVOIR SITE 11 AT SAN ANTONIO, TX

LOCATION.--Lat 29°36'11", long 98°25'50", Bexar County, Hydrologic Unit 12100301, located on left bank on upstream side of dam, 2.4 mi east of U.S. Highway 281, 0.7 mi upstream from Highway 1604, and 8.0 mi upstream from mouth.

DRAINAGE AREA.--2.33 mi^2 (6.03 km^2).

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and bacteria analyses: May 1976 to current year. Water temperatures: May 1976 to current year.

REMARKS.--No samples obtained during current year.

GUADALUPE RIVER BASIN

08178700 SALADO CREEK (UPPER STATION) AT SAN ANTONIO, TX

LOCATION.-Lat 29°30'57", long 98°25'51", Bexar County, Hydrologic Unit 12100301, on right bank at downstream side of eastbound bridge on Interstate Highway 410 in San Antonio, 1.0 mi west of Northeast School, 1.1 mi upstream from Perrin-Beitel Creek, and 2.7 mi east of San Antonio International Airport.

DRAINAGE AREA.--137 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1960 to current year.

GAGE.--Water-stage recorder with concrete control. Datum of gage is 684.60 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. No known diversion above station. Flow is affected at times by discharge from the flood-detention pools of eleven floodwater-retarding structures with a combined detention capacity of 26,770 acre-ft. These structures control runoff from 74.6 mi^2 above this station. Recording rain gage located at station with four additional recording rain gages located in watershed.

AVERAGE DISCHARGE.--24 years, 8.97 ft^3/s (6,500 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft^3/s May 12, 1972 (gage height, 15.22 ft), from rating curve extended above 8,000 ft^3/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1853, 23 to 24 ft in October 1913. Flood in September 1921 reached a stage of 18 ft, and flood of Sept. 27, 1946, reached a stage of 18.2 ft, and are the second and third highest since 1899.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 279 ft^3/s Mar. 12 at 0100 hours (gage height, 4.22 ft), no other peak above base of 250 ft^3/s; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.13	.04	.09	.05	.00	.00	.00	.00	.00	.00	.02
2	.00	.20	.03	.57	.46	.00	.00	.00	.00	.00	.00	.00
3	.00	.32	5.6	.28	2.0	.00	.00	.00	.00	.00	.00	18
4	.00	.15	.23	.15	1.5	.00	.00	.00	.00	.00	.00	6.4
5	.00	13	.11	.09	1.1	.00	.00	.00	.00	.00	.00	.10
6	.00	1.9	.06	.07	.10	.00	.00	.00	.04	.00	.00	.01
7	.00	.20	.02	.05	.07	.00	.00	.03	.11	.00	.00	.00
8	.02	.11	.01	.36	.05	.00	.01	.00	.00	.00	.00	.00
9	4.4	.12	.00	8.5	.03	.00	.00	.00	.00	.00	.00	.00
10	.61	.02	.01	.14	.01	.00	.00	.00	.00	.00	.00	.00
11	.36	.01	.00	.07	.00	.00	.00	.00	.00	.00	.00	.00
12	4.0	.00	.00	.06	.00	25	.00	.00	.00	.00	.20	.00
13	.16	.00	.05	.02	.00	.39	.00	.00	.00	.00	.19	.00
14	.07	.01	3.2	.00	.00	.13	.00	.00	.00	.00	.12	.00
15	.02	.00	.47	.00	.00	.08	.00	.00	.00	.00	.23	.00
16	.00	.00	.09	.00	.00	.04	.00	.00	.00	.00	.01	.00
17	.01	.00	.07	.00	.00	.00	.00	5.0	.00	.00	.00	.00
18	.03	.06	.09	.00	.00	.23	.00	18	.00	.00	.00	.00
19	.00	.04	.08	.00	.00	9.1	.00	34	.00	.00	.00	.00
20	.00	.00	.07	.00	.00	.23	.00	8.1	.00	.00	.00	.00
21	.00	.00	.06	.00	.00	.12	.00	.92	.00	.00	.00	.00
22	.00	.03	.04	.08	.00	.07	.00	.16	.00	.00	.00	.00
23	.00	3.9	.03	.78	.00	.03	.00	.06	.00	.00	.00	.00
24	.00	.15	.02	.17	.00	.00	.00	.02	.00	.00	.03	.00
25	.00	.08	.00	.20	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.05	.00	.11	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.92	.02	.04	.00	.00	.00	.00	.02	.00	.00	.00
28	.00	.27	.00	.00	.00	.00	.00	.29	.00	.00	.00	.00
29	.00	.15	.09	.04	.00	.00	.00	1.3	.00	.00	.00	.02
30	.00	.10	.14	.05	---	.00	.00	.09	.00	.00	.00	.00
31	.06	---	.09	.04	---	.00	---	.02	---	.00	.05	---
TOTAL	9.74	21.92	10.72	11.96	5.37	35.42	.01	67.99	.17	.00	.83	24.55
MEAN	.31	.73	.35	.39	.19	1.14	.000	2.19	.006	.000	.027	.82
MAX	4.4	13	5.6	8.5	2.0	25	.01	34	.11	.00	.23	18
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	19	43	21	24	11	70	.02	135	.3	.00	1.6	49

CAL YR 1983 TOTAL 645.80 MEAN 1.77 MAX 130 MIN .00 AC-FT 1280
WTR YR 1984 TOTAL 188.68 MEAN .52 MAX 34 MIN .00 AC-FT 374

08178700 SALADO CREEK (UPPER STATION) AT SAN ANTONIO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: November 1968 to current year. Sediment analyses: November 1971 to September 1973. Water temperatures: November 1968 to current year. Bacteria analyses: May 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAY 18...	1042	16	297	7.8	22.0	180	25	6.0	70	6.3	50000	39000

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
MAY 18...	110	32	37	4.0	13	.6	4.8	77	45	13	.40	6.4

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAY 18...	170	192	37	.54	.060	.60	.100	1.4	1.5	.300	15

GUADALUPE RIVER BASIN

08178880 MEDINA RIVER AT BANDERA, TX

LOCATION.--Lat 29°43'25", long 99°04'11", Bandera County, Hydrologic Unit 12100302, on left bank 40 ft downstream from centerline of State Highway 173, 1.9 mi upstream from Bandera Creek, and 5.6 mi downstream from Indian Creek.

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 25...	1025	54	570	7.8	10.5	<1	2.1	10.4	96	.4	22	21
APR 18...	1445	24	569	8.2	19.0	5	2.0	8.7	98	.2	33	32
AUG 14...	1510	1.3	568	8.0	30.0	4	2.7	7.3	101	.9	K16	60

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN 25...	290	98	86	19	7.1	.2	1.1	195	88	13	.20	8.3
APR 18...	280	110	81	20	7.3	.2	1.3	179	110	10	.30	9.8
AUG 14...	280	120	74	23	8.7	.2	2.4	158	120	14	.30	14

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, 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)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 25...	340	6	<2	<.010	.40	<.010	--	.30	.010	--	.8
APR 18...	350	4	<2	.010	<.10	.070	.13	.20	<.010	--	1.0
AUG 14...	350	6	<1	<.010	<.10	.060	.54	.60	<.010	.040	1.5

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 25...	1025	1	32	<1	<10	2	7
AUG 14...	1510	<1	36	<1	<10	2	6

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 25...	1	2	.2	<1	<1	11
AUG 14...	<1	1	<.1	<1	<1	9

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
JAN 25...	1025	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01
AUG 14...	1510	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01

08178880 MEDINA RIVER AT BANDERA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
JAN 25...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
AUG 14...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 25...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01
AUG 14...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01

08179500 MEDINA LAKE NEAR SAN ANTONIO, TX

LOCATION.--Lat 29°32'24", long 98°56'01", Medina County, Hydrologic Unit 12100302, at gate-operating platform, 576 ft from left end of Medina Dam on Medina River, 4.2 mi upstream from Medina diversion dam, 13 mi north of Castroville, 28 mi west of San Antonio, and 70.4 mi upstream from mouth. Water-quality sampling site at the center of low-water bridge 0.6 mi downstream.

DRAINAGE AREA.--634 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1913 to current year. Prior to October 1965, monthend contents only.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Nonrecording gage read once daily if stage changing materially, otherwise intermittently. Datum of gage is 7.80 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a gravity-type concrete dam, 1,580 ft long. The dam was completed and storage began May 7, 1913. The uncontrolled emergency spillway is a cut through natural rock 880 ft long, with a 3-foot-wide cutoff wall, located near right end of dam. The dam and lake are owned by the Bexar-Medina-Atascosa Counties Water Improvement District No. 1, which has a permit from the Texas Department of Water Resources to irrigate 150,000 acres annually. An undetermined amount of water from the lake enters the Edwards and associated limestones in the Balcones Fault Zone, part of which is above and part below the dam. Water is released downstream to Medina Diversion Reservoir where it is diverted into Medina Canal by the Water District. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	1,084.0	-
Crest of spillway	1,072.0	254,000
Water-supply outlet pipes (invert)	966.5	4,780
Lowest gated outlet (invert)	920.0	0

COOPERATION.--Capacity table, based on survey made prior to June 1912, and gage-height record were furnished by the Bexar-Medina-Atascosa Counties Water Improvement District No. 1.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents observed, 288,800 acre-ft Sept. 16, 1919 (gage height, 1,078.0 ft); minimum observed since lake first filled, 780 acre-ft about Apr. 11, 1948 (gage height, 944.0 ft).

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 157,900 acre-ft Oct. 1, 2 (gage height, 1,051.9 ft); minimum, 68,630 acre-ft Sept. 30 (gage height, 1,022.6 ft).

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

1,022.0	67,240	1,040.0	114,500
1,025.0	74,220	1,045.0	132,200
1,030.0	85,860	1,050.0	150,000
1,035.0	100,200	1,052.0	158,400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157900	153300	155000	148900	148200	145000	137500	126600	113700	105300	90160	78640
2	157900	153300	154200	148900	148200	145000	137200	125900	113100	104800	89870	77710
3	157500	152900	154200	148900	147800	145000	137200	125500	112800	104200	89010	77480
4	157100	152900	154200	149200	148500	144600	136500	125100	112500	103600	88730	77480
5	156700	154600	154200	149200	147800	144600	136500	124400	112800	103100	88150	77250
6	156300	156700	154200	148900	147500	144300	136100	124400	113100	102500	87580	76780
7	156300	157100	153700	148900	147500	143900	135800	124100	113100	101900	87290	76080
8	155800	157100	153700	148500	147500	143900	135400	123700	112800	101600	86720	75850
9	156700	157100	153300	148900	147100	143600	135100	123400	112800	101000	86430	75620
10	157500	156700	153300	148900	147100	143600	134400	123000	112500	100800	85860	75150
11	157100	156700	152900	148900	147100	143200	134400	122300	112200	100200	85390	74920
12	157500	156700	152500	149200	147500	142900	133700	122300	111900	99620	84930	74690
13	156700	156700	152500	149200	147500	142900	133300	122000	111900	99040	84460	74220
14	156300	156700	152500	149200	147100	142900	132900	121600	111700	98760	84230	73750
15	156300	156700	152100	149200	147100	142500	132600	120900	111100	98180	83530	73750
16	155800	156700	152100	149200	147100	142500	132200	120500	111100	97610	83300	73060
17	155800	156300	152100	149200	146800	142200	132200	120200	110800	97320	83070	72820
18	155800	156300	151600	148900	146800	142200	131500	119800	110200	96750	82830	72360
19	155800	155800	151600	149200	148900	141800	131200	119800	109900	96180	82600	72360
20	155800	155800	151200	149200	148900	141800	131200	119800	109400	96460	82370	71890
21	156700	155800	151200	148900	149600	141100	130800	118800	109100	95320	82370	71660
22	155800	155400	150800	148900	147800	140700	130500	118800	108800	95320	81670	71190
23	155400	155800	151200	148900	146400	140400	130100	118100	108500	94460	81440	70730
24	155000	155400	150000	149200	146100	140700	129400	117400	108200	93880	81200	70500
25	155400	155800	150000	149200	146100	140000	129000	117000	107600	93310	81200	70260
26	155000	155400	149600	148900	145700	139700	128700	116300	107400	93020	80740	70030
27	155000	155400	150000	148500	145700	139300	128300	115900	107100	92740	80510	69800
28	155000	155400	149600	148500	145700	139300	128000	115200	106500	92170	80040	69330
29	154600	154600	150000	148200	145000	138600	127300	114900	105900	91590	79570	69100
30	154200	154600	149600	147800	---	138600	127300	114900	105600	91310	79340	68630
31	153700	---	149600	147100	---	137900	---	114200	---	90730	79110	---
MAX	157900	157100	155000	149200	149600	145000	137500	126600	113700	105300	90160	78640
MIN	153700	152900	149600	147100	145000	137900	127300	114200	105600	90730	79110	68630
(†)	1050.9	1051.1	1049.9	1049.2	1048.6	1046.6	1043.6	1039.9	1036.9	1031.7	1027.1	1022.6
(‡)	-4700	+900	-5000	-2500	-2100	-7100	-10600	-13100	-8600	-14870	-11620	-10480

CAL YR 1983 MAX 190300 MIN 149600 ‡ -40700
WTR YR 1984 MAX 157900 MIN 68630 ‡ -89770

† Elevation, in feet, at end of month.
‡ Change in contents, in acre feet.

08179500 MEDINA LAKE NEAR SAN ANTONIO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	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)
JAN 25...	1645	410	13.0	190	51	50	16	7.8

DATE	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)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
JAN 25...	.3	1.9	140	54	14	.20	8.9	240

08180000 MEDINA CANAL NEAR RIOMEDINA, TX

LOCATION.--Lat 29°30'19", long 98°54'11", Medina County, Hydrologic Unit 12100302, in center of canal, 54 ft upstream from center pier of double-barrel flume, 350 ft downstream from county highway bridge, 1,900 ft downstream from head of canal and diversion dam, 4.6 mi downstream from Medina Dam, 4.7 mi north of Riomedina, and 25 mi northwest of San Antonio.

PERIOD OF RECORD.--March 1922 to May 1934, July 1957 to current year.

REVISED RECORDS.--WSP 568: 1922. WSP 1712: 1922(M), 1924, 1926.

GAGE.--Water-stage recorder. Altitude of gage is 910 ft, from topographic map.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Station is above all diversions from canal. Canal diverts from right end of Medina Diversion Dam 1,900 ft upstream from gage for irrigation downstream near Lacoste and Natalia. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years (water years 1923-33, 1958-84), 42.9 ft^3/s (31,080 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 216 ft^3/s May 6, 1971; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	51	46	.00	27	58	119	151	151	157	149	138
2	73	52	39	.00	27	57	117	154	151	156	149	137
3	76	51	32	.00	28	57	119	156	153	157	148	137
4	80	53	2.1	.00	28	56	121	156	150	157	148	112
5	87	54	18	.00	28	59	135	99	137	158	147	109
6	94	56	46	.00	28	68	127	56	126	158	147	103
7	92	44	46	.00	28	71	131	38	75	158	147	84
8	84	32	47	.00	28	77	133	132	60	159	146	81
9	23	32	42	.00	26	78	102	133	89	159	146	89
10	2.3	35	33	.00	18	79	83	139	107	159	142	114
11	2.2	39	33	.00	16	80	66	90	109	160	139	111
12	2.3	40	39	.00	15	81	79	113	117	159	140	99
13	1.4	39	43	.00	17	82	93	120	113	160	141	98
14	.00	39	44	.00	28	82	101	126	95	159	140	105
15	20	46	45	.00	28	82	101	132	73	159	129	103
16	37	48	46	.00	28	79	105	135	92	158	57	90
17	35	53	46	.00	28	84	123	129	92	159	62	57
18	34	64	46	.00	28	90	144	130	89	158	66	76
19	25	63	47	.00	28	89	137	139	102	158	65	82
20	24	60	24	.00	27	78	119	136	108	157	65	82
21	26	59	30	.00	27	84	112	138	113	157	71	82
22	33	58	29	.00	35	98	111	143	124	157	84	82
23	36	59	20	.00	43	100	128	143	127	157	107	82
24	52	58	20	.00	44	98	137	142	122	154	102	99
25	57	54	20	.00	44	97	134	143	141	153	98	98
26	55	52	40	.00	45	97	135	143	148	153	95	95
27	61	51	40	.00	41	107	148	143	154	153	102	91
28	62	50	40	.00	42	106	146	144	158	152	114	89
29	63	49	40	.00	54	104	146	129	158	151	123	67
30	64	49	40	.00	---	122	147	120	157	151	131	55
31	60	---	40	27	---	122	---	142	---	150	137	---
TOTAL	1434.20	1490	1123.1	27.00	884	2622	3599	3994	3591	4853	3637	2847
MEAN	46.3	49.7	36.2	.87	30.5	84.6	120	129	120	157	117	94.9
MAX	94	64	47	27	54	122	148	156	158	160	149	138
MIN	.00	32	2.1	.00	15	56	66	38	60	150	57	55
AC-FT	2840	2960	2230	54	1750	5200	7140	7920	7120	9630	7210	5650

CAL YR 1983 TOTAL 18990.41 MEAN 52.0 MAX 151 MIN .00 AC-FT 37670
WTR YR 1984 TOTAL 30101.30 MEAN 82.2 MAX 160 MIN .00 AC-FT 59710

NOTE.--No gage-height record Dec. 23 to Jan. 30.

GUADALUPE RIVER BASIN

08181400 HELOTES CREEK AT HELOTES, TX

LOCATION.--Lat 29°34'42", long 98°41'29", Bexar County, Hydrologic Unit 12100302, 42 ft to left and 44 ft downstream from centerline of bridge on State Highway 16, 0.1 mi northwest of Helotes, and 8.6 mi upstream from mouth.

DRAINAGE AREA.--15.0 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1968 to current year.

REVISED RECORDS.--WRD TX-73-1: 1972(M).

GAGE.--Water-stage recorder. Datum of gage is 1,014.82 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. An undetermined amount of flow is diverted for domestic use above the station, and some flow enters the Edwards and associated limestones through the Balcones Fault Zone in the vicinity of the gage. Recording rain gage located at station, with two additional recording rain gages located in the watershed.

AVERAGE DISCHARGE.--16 years, 3.90 ft³/s (3.53 in/yr), 2,830 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,680 ft³/s July 16, 1973 (gage height, 10.8 ft, from floodmarks), from rating curve extended above 5,000 ft³/s; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1923, 13.7 ft in 1927, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21 ft³/s May 28 at 1715 hours (gage height, 1.87 ft), no peak above base of 140 ft³/s; no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.22	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.61	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.20	.00	.00	.00	.00	.00	.71	.22	.00	.00	.00
MEAN	.000	.007	.000	.000	.000	.000	.000	.023	.007	.000	.000	.000
MAX	.00	.20	.00	.00	.00	.00	.00	.61	.22	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.000	.000	.000	.002	.000	.000	.000	.000
IN.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.4	.00	.00	.00	.00	.00	1.4	.4	.00	.00	.00

CAL YR 1983 TOTAL 4.08 MEAN .011 MAX .75 MIN .00 CFSM .001 IN .01 AC-FT 8.1
WTR YR 1984 TOTAL 1.13 MEAN .003 MAX .61 MIN .00 CFSM .000 IN .00 AC-FT 2.2

08183900 CIBOLO CREEK NEAR BOERNE, TX

LOCATION.--Lat 29°46'26", long 98°41'50", Kendall County, Hydrologic Unit 12100304, on left bank 0.6 mi upstream from Southern Pacific Lines bridge, 0.9 mi downstream from Menger Creek, and 2.5 mi southeast of Boerne.

DRAINAGE AREA.--68.4 mi².

PERIOD OF RECORD.--March 1962 to current year.

REVISED RECORDS.--WRD TX-73-1: 1964-65, 1966(P), 1968-72(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,339.61 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No known diversion above station. Flow is affected at times by discharge from the flood-detention pools of four floodwater-retarding structures with a combined detention capacity of 8,850 acre-ft. These structures control runoff from 34.0 mi². Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--22 years, 27.3 ft³/s (5.42 in/yr), 19,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,400 ft³/s Sept. 27, 1964 (gage height, 19.15 ft, from floodmark), from rating curve extended above 2,500 ft³/s on basis of slope-area measurement at 12,000 ft³/s and contracted-opening measurement of 36,400 ft³/s; no flow at times in 1962-64, 1966-67, 1971, and 1984.
Maximum stage since at least 1892, that of Sept. 27, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.-- Second highest flood in 1952 reached a stage of 16.3 ft (discharge, 25,600 ft³/s), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,020 ft³/s Oct. 9 at 0600 hours (gage height, 4.49 ft), no other peak above base of 900 ft³/s; no flow Aug. 30, Sept. 1, 12-15, 19, 25-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	4.7	5.8	3.9	5.2	4.0	4.2	1.4	.97	1.2	.67	.00
2	1.3	4.5	6.3	4.3	5.2	4.0	4.3	1.9	.74	1.1	.52	.01
3	1.3	4.5	8.4	4.5	5.7	3.8	4.1	1.7	.58	.91	.45	1.7
4	1.2	5.7	7.1	4.9	5.9	3.7	3.6	1.4	.56	.63	.32	.75
5	1.1	29	6.7	4.9	5.9	3.7	3.4	1.3	30	.60	.33	.14
6	.89	23	5.8	4.8	5.6	3.5	3.4	1.4	35	.71	.20	.10
7	.93	13	5.1	4.8	5.3	3.5	3.8	1.4	3.8	.46	.14	.08
8	1.1	10	5.1	5.4	4.9	3.6	4.1	1.4	2.3	.46	.09	.08
9	168	9.7	5.1	31	5.2	3.8	3.5	1.3	1.9	.50	.07	.05
10	14	9.1	5.4	9.7	5.6	4.0	3.4	1.3	1.8	.37	.06	.03
11	6.9	7.9	5.1	7.2	5.8	4.0	3.3	1.4	1.8	.28	.05	.02
12	6.1	7.3	4.7	6.2	5.8	7.0	3.4	1.3	2.1	.23	.06	.00
13	4.8	7.3	4.7	5.9	5.2	6.3	3.3	1.5	2.7	.15	.24	.00
14	4.6	7.3	5.1	5.8	4.9	5.7	2.9	1.4	2.1	.06	.19	.00
15	4.6	6.9	4.6	5.5	4.9	5.5	2.7	1.3	2.0	.06	.30	.00
16	4.7	6.6	5.0	5.6	5.4	5.6	2.6	1.2	2.0	.08	.41	.02
17	4.5	6.3	4.9	5.8	5.3	5.3	2.7	1.4	1.9	.06	.36	.01
18	4.0	7.2	4.8	5.9	4.8	4.9	2.8	2.6	1.9	.11	.32	.01
19	3.8	7.4	4.6	6.1	4.6	4.5	3.1	4.5	1.8	.41	.34	.00
20	28	7.3	4.5	5.5	4.2	4.7	3.1	3.6	1.7	.78	.28	.01
21	11	6.8	4.6	5.4	4.1	4.7	2.5	2.2	1.6	.35	.19	.03
22	7.7	7.2	4.5	5.9	4.5	4.6	2.0	1.7	1.5	.55	.21	.04
23	5.6	12	4.4	6.5	4.5	4.7	2.1	1.8	1.1	.47	.23	.04
24	5.9	7.6	4.0	6.6	4.1	4.3	2.1	1.8	1.2	.50	.25	.01
25	5.6	6.8	4.3	6.1	4.2	4.4	2.0	1.8	1.2	.97	.20	.00
26	5.2	6.1	4.0	5.6	5.3	4.2	2.2	1.5	1.1	1.6	.21	.00
27	5.0	6.2	4.3	5.8	5.6	5.5	1.8	1.3	1.1	1.2	.22	.00
28	5.0	5.6	4.0	5.6	5.6	3.7	1.5	4.3	1.1	1.6	.23	.01
29	5.4	5.2	3.7	5.3	4.2	3.9	1.7	4.5	1.4	1.6	.16	.02
30	4.9	6.0	3.9	5.0	---	4.2	1.4	1.8	1.4	.85	.03	.04
31	4.8	---	3.8	5.2	---	4.2	---	1.3	---	.65	.00	---
TOTAL	329.32	254.2	154.3	200.7	147.5	139.5	87.0	58.7	110.35	19.50	7.33	3.20
MEAN	10.6	8.47	4.98	6.47	5.09	4.50	2.90	1.89	3.68	.63	.24	.11
MAX	168	29	8.4	31	5.9	7.0	4.3	4.5	35	1.6	.67	1.7
MIN	.89	4.5	3.7	3.9	4.1	3.5	1.4	1.2	.56	.06	.00	.00
CFSM	.16	.12	.07	.10	.07	.07	.04	.03	.05	.009	.004	.002
IN.	.18	.14	.08	.11	.08	.08	.05	.03	.06	.01	.00	.00
AC-FT	653	504	306	398	293	277	173	116	219	39	15	6.3

CAL YR 1983	TOTAL	4399.82	MEAN 12.1	MAX 272	MIN .89	CFSM .18	IN 2.39	AC-FT 8730		
WTR YR 1984	TOTAL	1511.60	MEAN 4.13	MAX 168	MIN .00	CFSM .06	IN .82	AC-FT 3000		

08185000 CIBOLO CREEK AT SELMA, TX

LOCATION.--Lat 29°35'38", long 98°18'39", Bexar-Guadalupe County line, Hydrologic Unit 12100304, on right bank 0.6 mi downstream from Missouri-Kansas-Texas Railroad Co. bridge and 0.9 mi upstream from bridge on Interstate Highway 35 at Selma.

DRAINAGE AREA.--274 mi².

PERIOD OF RECORD.--March 1946 to current year. Figures for water year 1960 in WSP 1813 are in error and should be disregarded.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 728.34 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Small diversion above station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08183900. Considerable flow of Cibolo Creek enters the Edwards and associated limestones in the Balcones Fault Zone, which crosses basin between this station and the station near Boerne (station 08183900).

AVERAGE DISCHARGE.--38 years, 14.4 ft³/s (10,430 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,000 ft³/s July 16, 1973 (gage height, 26.2 ft, from floodmark), from rating curve extended above 16,000 ft³/s on basis of field estimate of 54,000 ft³/s and contracted-opening measurement of 65,000 ft³/s; no flow most of time.
Maximum stage since at least 1869, that of July 16, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 26 ft occurred in 1889, but stage for flood in 1913 is unknown, from information by local residents.

EXTREMES FOR CURRENT YEAR.--No flow for year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR 1983 TOTAL 201.66 MEAN .55 MAX 114 MIN .00 AC-FT 400
WTR YR 1984 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00

08190000 NUECES RIVER AT LAGUNA, TX

LOCATION.--Lat 29°25'42", long 99°59'49", Uvalde County, Hydrologic Unit 12110101, on right bank 0.5 mi downstream from Sycamore Creek, 1.0 mi northeast of Laguna, and at mile 370.8.

DRAINAGE AREA.--737 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year.

REVISED RECORDS.--WSP 1562: 1930, 1931(M), 1932, 1939. WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,119.72 ft National Geodetic Vertical Datum of 1929. Prior to Jan. 26, 1925, nonrecording gage at site 2 mi downstream at different datum.

REMARKS.--Water-discharge records good. Many small diversions above station for irrigation.

AVERAGE DISCHARGE.--61 years, 147 ft³/s (2.71 in/yr), 106,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 307,000 ft³/s Sept. 24, 1955, (gage height, 29.95 ft, in gage well, 32.7 ft, from floodmarks), from rating curve extended above 40,000 ft³/s on basis of float measurement of 110,000 ft³/s and slope-area measurements of 213,000 and 307,000 ft³/s; minimum, 2.6 ft³/s Mar. 14-16, 1957.
Maximum stage since at least 1866, that of Sept. 24, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1913 reached a stage of about 29 ft, discharge 210,000 ft³/s; flood of Sept. 21, 1923, reached a stage of about 26.5 ft, discharge 160,000 ft³/s; from information by local residents. Discharges based on rating curve mentioned above.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 20	2230	701	5.00
Nov. 5	1600	*1,080	5.36

Minimum daily discharge, 13 ft³/s Aug. 20-30, Sept. 10-15, 19-21, 23-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	131	116	85	76	60	50	39	26	23	16	14
2	57	128	116	85	76	59	50	38	26	22	16	14
3	57	133	115	85	75	57	48	35	27	21	16	14
4	57	195	112	84	73	58	48	35	27	21	15	14
5	57	439	109	83	71	57	49	34	27	20	15	14
6	57	363	107	82	71	56	48	34	37	20	15	14
7	57	234	106	81	70	58	53	33	32	19	15	14
8	57	197	105	86	70	57	50	32	31	19	14	14
9	92	177	105	95	70	57	48	32	31	19	15	14
10	92	161	104	96	70	57	48	32	29	19	14	13
11	87	161	101	92	70	55	48	32	28	19	14	13
12	79	158	99	87	69	56	46	32	27	19	14	13
13	75	154	98	85	69	54	48	31	27	19	14	13
14	72	150	98	84	68	55	45	31	27	18	14	13
15	71	148	96	83	67	55	45	31	26	18	14	13
16	69	147	95	83	67	54	44	33	26	18	15	14
17	68	144	94	83	67	54	44	33	25	18	15	14
18	68	142	93	82	66	53	43	33	25	18	14	14
19	67	138	92	81	66	52	43	32	25	17	14	13
20	168	135	92	80	65	52	43	31	24	17	13	13
21	377	134	91	80	65	52	41	30	24	17	13	13
22	223	133	90	80	65	51	42	29	24	17	13	14
23	176	128	89	79	64	51	41	30	23	17	13	13
24	153	127	87	80	64	50	41	29	23	18	13	13
25	139	125	87	78	63	51	40	28	23	21	13	13
26	133	124	87	78	63	51	40	28	22	20	13	13
27	130	123	87	76	60	50	38	28	22	19	13	13
28	131	121	87	76	63	48	40	29	22	19	13	13
29	131	119	87	75	61	49	39	28	23	18	13	14
30	133	117	86	74	---	48	38	27	23	17	13	14
31	133	---	85	77	---	49	---	26	---	16	14	---
TOTAL	3323	4886	3016	2555	1964	1666	1341	975	782	583	436	405
MEAN	107	163	97.3	82.4	67.7	53.7	44.7	31.5	26.1	18.8	14.1	13.5
MAX	377	439	116	96	76	60	53	39	37	23	16	14
MIN	57	117	85	74	60	48	38	26	22	16	13	13
CFSM	.14	.21	.13	.11	.09	.07	.06	.04	.03	.03	.02	.02
IN.	.16	.24	.15	.12	.10	.08	.07	.05	.04	.03	.02	.02
AC-FT	6590	9690	5980	5070	3900	3300	2660	1930	1550	1160	865	803

CAL YR 1983 TOTAL 28543 MEAN 78.2 MAX 439 MIN 28 CFSM .10 IN 1.39 AC-FT 56620
WTR YR 1984 TOTAL 21932 MEAN 59.9 MAX 439 MIN 13 CFSM .08 IN 1.07 AC-FT 43500

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 26...	1012	78	396	8.0	13.0	<1	.50	10.0	99	.2	K15	K7
APR 19...	1730	43	389	8.2	23.0	5	.60	9.2	113	.3	<1	K2
JUL 25...	1630	21	403	8.0	28.0	--	--	9.8	117	--	K1	--
AUG 15...	1008	15	407	8.0	26.0	1	.60	6.9	88	.6	K10	K21

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN 26...	190	21	54	14	7.4	.2	.80	172	13	14	.10	9.9
APR 19...	180	10	51	13	7.3	.2	.70	171	15	11	.20	10
JUL 25...	--	--	--	--	--	--	--	172	--	--	--	--
AUG 15...	190	18	53	14	8.0	.3	1.4	172	15	13	.10	13

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 26...	220	<2	<2	--	<.010	.90	<.010	--	.80	<.010	.5
APR 19...	210	<2	<2	.59	.010	.60	.070	.23	.30	<.010	.6
JUL 25...	--	--	--	--	--	--	--	--	--	--	--
AUG 15...	220	9	8	--	<.010	.50	.030	.17	.20	<.010	1.3

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 26...	1012	1	35	<1	<10	2	3
AUG 15...	1008	<1	41	<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)
JAN 26...	<1	<1	.3	<1	<1	<3
AUG 15...	<1	<1	<.1	<1	1	<3

08190000 NUECES RIVER AT LAGUNA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 26...	1012	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
JAN 26...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 26...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01

08190500 WEST NUECES RIVER NEAR BRACKETTVILLE, TX

LOCATION.--Lat 29°28'21", long 100°14'10", Kinney County, Hydrologic Unit 12110102, at Wilson Ranch on Farm Road 3199, 1.3 mi upstream from Miguel Canyon, 16.0 mi northeast of Brackettville, and 40.2 mi upstream from mouth.

DRAINAGE AREA.--694 mi².

PERIOD OF RECORD.--September 1939 to September 1950, April 1956 to current year.

REVISED RECORDS.--WSP 1312: 1949(M). WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,326.79 ft National Geodetic Vertical Datum of 1929. Prior to Mar. 14, 1940, nonrecording gage at same site and datum.

REMARKS.--Records good except those below 1 ft³/s, which are poor. In ordinary years, a large part of streamflow from the basin is lost by seepage into the Balcones Fault Zone of the Edwards and associated limestones above station. No known diversion above station. An observation of water temperature was made during the year.

AVERAGE DISCHARGE.--39 years (water years 1940-50, 1957-84), 36.2 ft³/s (26,230 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 246,000 ft³/s Sept. 20, 1964, (gage height, 31.3 ft, from floodmark), from rating curve extended above 4,500 ft³/s on basis of slope-area measurements of 10,000, 51,000, 150,000, and 246,000 ft³/s; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1879, about 40 ft June 14, 1935 (discharge, 550,000 ft³/s, based on slope-area measurements of 580,000 ft³/s at site 33 mi upstream from gage) and 536,000 ft³/s (at site 24 mi downstream from gage, present site and datum), from gage-height relation of 1935 and 1955 flood peaks at site 6.6 mi upstream. Flood in 1900 reached a stage of about 34 ft, and flood of Sept. 24, 1955, reached a stage of 27.1 ft, from floodmark at present site (discharge, 150,000 ft³/s, by slope-area measurement).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,200 ft³/s Oct. 20 at 1530 hours (gage height, 12.36 ft), no other peak above base of 1,000 ft³/s; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	8.9	3.6	.00	.07	.04	.00	.00	.00	.00	.11	.00
2	.00	7.2	3.4	.00	.09	.04	.00	.00	.00	.00	.07	.00
3	.00	6.3	3.2	.00	.12	.03	.00	.00	.00	.00	.05	.00
4	.00	5.6	3.3	.00	.15	.03	.00	.00	.00	.00	.04	.00
5	.00	162	3.0	.00	.09	.02	.00	.00	.00	.00	.03	.00
6	.00	86	2.8	.00	.08	.01	.01	.00	.00	.00	.03	.00
7	.00	56	2.8	.01	.07	.04	.02	.00	.00	.00	.03	.00
8	.00	44	2.6	.02	.06	.03	.03	.00	.00	.00	.02	.00
9	280	35	2.6	.03	.05	.02	.02	.00	.00	.00	.02	.00
10	80	27	2.4	.03	.06	.02	.01	.00	.00	.00	.00	.00
11	18	22	2.2	.04	.07	.02	.00	.00	.00	.00	.00	.00
12	12	19	2.3	.06	.08	.03	.00	.00	.00	.00	.00	.00
13	10	16	1.5	.07	.10	.04	.00	.00	.00	.00	.00	.00
14	8.8	13	1.5	.09	.07	.02	.00	.00	.00	.00	.00	.00
15	7.0	11	1.6	.10	.05	.02	.00	.00	.00	.00	.00	.00
16	5.6	9.5	1.8	.12	.04	.01	.00	.00	.00	.00	.00	.00
17	4.8	8.3	.97	.14	.04	.00	.00	.00	.00	.00	.00	.00
18	4.2	7.5	1.0	.18	.03	.00	.00	.00	.00	.00	.00	.00
19	3.8	6.2	.41	.21	.03	.00	.00	.00	.00	.00	.00	.00
20	2590	6.3	.28	.24	.02	.00	.00	.00	.00	.00	.00	.00
21	963	6.0	.17	.27	.02	.00	.00	.00	.00	.00	.00	.00
22	220	5.5	.09	.31	.01	.00	.00	.00	.00	.00	.00	.00
23	132	4.8	.04	.35	.02	.00	.00	.00	.00	.00	.00	.00
24	99	4.8	.02	.45	.03	.00	.00	.00	.00	.00	.00	.00
25	76	4.9	.01	.50	.03	.00	.00	.00	.00	.02	.00	.00
26	55	4.5	.01	.19	.04	.00	.00	.00	.00	.30	.00	.00
27	39	4.1	.00	.10	.06	.00	.00	.00	.00	.21	.00	.00
28	30	4.0	.00	.06	.05	.00	.00	.00	.00	.15	.00	.00
29	22	3.9	.00	.04	.05	.00	.00	.00	.00	.11	.00	.02
30	17	3.7	.00	.05	---	.00	.00	.00	.00	.14	.00	.06
31	12	---	.00	.06	---	.00	---	.00	---	.17	.00	---
TOTAL	4689.20	603.0	43.60	3.72	1.68	.42	.09	.00	.00	1.10	.40	.08
MEAN	151	20.1	1.41	.12	.058	.014	.003	.000	.000	.035	.013	.003
MAX	2590	162	3.6	.50	.15	.04	.03	.00	.00	.30	.11	.06
MIN	.00	3.7	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
AC-FT	9300	1200	86	7.4	3.3	.8	.2	.00	.00	2.2	.8	.2

CAL YR 1983	TOTAL	10792.30	MEAN 29.6	MAX 3830	MIN .00	AC-FT	21410
WTR YR 1984	TOTAL	5343.29	MEAN 14.6	MAX 2590	MIN .00	AC-FT	10600

08192000 NUECES RIVER BELOW UVALDE, TX

LOCATION.--Lat 29°07'25", long 99°53'40", Uvalde County, Hydrologic Unit 12110103, on right bank at McDaniel Ranch, 5.7 mi upstream from bridge on U.S. Highway 83, 8.8 mi southwest of Uvalde, 18.2 mi downstream from West Nueces River, and at mile 338.7.

DRAINAGE AREA.--1,861 mi².

PERIOD OF RECORD.--April 1939 to current year. October 1927 to April 1939, published as "near Uvalde"; records equivalent only during periods of floodflow.

REVISED RECORDS.--WSP 1732: 1956(M). WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 796.12 ft National Geodetic Vertical Datum of 1929. Oct. 4, 1927, to Apr. 30, 1939, water-stage recorder at site 6.2 mi upstream at different datum.

REMARKS.--Records good. Part of flow of Nueces River enters Edwards and associated limestones in the Balcones Fault Zone which crosses basin downstream from Laguna (station 08190000) and upstream from this station. At low stage, most of headwater flow enters this formation. Many small diversions above station for irrigation. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--45 years, 118 ft³/s (85,490 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 189,000 ft³/s Sept. 24, 1955 (gage height, 24.61 ft, from floodmark), from rating curve extended above 34,000 ft³/s on basis of conveyance study and slope-area measurement of peak flow; no flow at times in 1951-57.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1836, 40.4 ft June 14, 1935, from floodmark (discharge at former site, 616,000 ft³/s, by slope-area measurement). Large floods also occurred in 1901 and 1913, stages unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 37 ft³/s Oct. 9 at 0500 hours (gage height, 3.54 ft), no peak above base of 250 ft³/s; minimum daily, 2.1 ft³/s Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	32	27	24	20	14	10	6.5	4.8	3.6	2.6
2	16	15	32	27	24	20	13	9.3	6.5	4.8	3.6	2.6
3	16	17	31	27	24	20	13	9.0	6.5	4.7	3.5	3.4
4	16	20	31	27	24	21	13	9.0	6.0	4.7	3.5	4.4
5	16	23	31	27	24	19	13	9.0	6.0	4.8	3.5	2.9
6	15	20	30	26	24	19	13	9.0	7.4	4.7	3.5	2.6
7	15	19	30	26	24	19	13	9.1	6.1	4.5	3.5	2.6
8	15	19	29	28	24	19	12	8.5	6.0	4.5	3.2	2.9
9	28	21	30	29	23	18	12	8.4	6.0	4.4	2.9	2.9
10	18	23	29	25	23	18	11	8.5	5.8	4.4	2.9	2.6
11	17	25	29	26	23	18	12	8.5	5.6	4.3	2.9	2.6
12	16	26	29	25	23	18	12	8.5	5.6	4.4	3.2	2.4
13	15	27	28	25	23	17	12	8.4	5.7	4.1	3.2	2.4
14	15	27	29	25	23	18	11	8.5	6.1	4.1	2.9	2.4
15	15	27	29	24	23	18	11	8.4	5.8	4.1	2.9	2.6
16	15	27	29	24	23	18	11	8.5	5.6	4.1	2.9	2.6
17	16	27	29	24	23	17	11	9.3	5.6	4.0	2.9	2.7
18	17	27	29	24	24	17	11	8.4	5.2	4.0	2.9	2.5
19	16	27	28	24	23	16	11	7.9	5.2	3.8	2.6	2.4
20	16	27	29	24	23	16	11	7.9	5.2	3.8	2.4	2.5
21	15	28	29	24	23	16	10	7.8	5.2	3.7	2.6	2.4
22	15	28	28	24	23	16	10	7.5	5.5	3.7	2.6	2.4
23	15	27	27	24	23	16	10	7.4	5.2	3.6	2.6	2.4
24	15	28	26	24	23	16	10	7.4	5.2	3.5	2.6	2.4
25	15	29	28	24	23	15	11	7.0	5.2	3.6	2.4	2.4
26	16	29	28	24	21	15	11	7.0	5.1	3.7	2.4	2.2
27	15	30	28	23	19	14	10	6.9	5.0	3.7	2.4	2.1
28	15	30	27	23	22	13	10	7.2	5.0	4.1	2.4	2.3
29	15	30	27	25	21	13	9.6	6.8	4.9	3.6	2.4	2.4
30	15	31	27	25	---	14	9.8	6.5	5.0	3.7	2.6	2.4
31	15	---	27	25	---	14	---	6.5	---	3.5	2.6	---
TOTAL	494	749	895	779	667	528	341.4	252.1	169.7	127.4	90.1	78.0
MEAN	15.9	25.0	28.9	25.1	23.0	17.0	11.4	8.13	5.66	4.11	2.91	2.60
MAX	28	31	32	29	24	21	14	10	7.4	4.8	3.6	4.4
MIN	15	15	26	23	19	13	9.6	6.5	4.9	3.5	2.4	2.1
AC-FT	980	1490	1780	1550	1320	1050	677	500	337	253	179	155

CAL YR 1983 TOTAL 8848.0 MEAN 24.2 MAX 798 MIN 15 AC-FT 17550
WTR YR 1984 TOTAL 5170.7 MEAN 14.1 MAX 32 MIN 2.1 AC-FT 10260

NUECES RIVER BASIN

08195000 FRIO RIVER AT CONCAN, TX

LOCATION.--Lat 29°29'18", long 99°42'16", Uvalde County, Hydrologic Unit 12110106, on left bank 0.7 mi southeast of Concan Post Office, 15 mi upstream from Dry Frio River, and 222.8 mi upstream from mouth.

DRAINAGE AREA.--389 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to September 1929, October 1930 to current year.

REVISED RECORDS.--WSP 1342: Drainage area. WSP 1512: 1926, 1931-32, 1934(M), 1935-36. WSP 1712: 1958. WSP 1923: 1954(M), 1957(M). WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,203.71 ft National Geodetic Vertical Datum of 1929. Oct. 26, 1923, to July 28, 1924, nonrecording gage at site 86 ft upstream at datum 5.08 ft lower. July 29, 1924, to Oct. 3, 1930, nonrecording gage, and Oct. 4, 1930, to May 18, 1939, water-stage recorder, at site 130 ft downstream at present datum.

REMARKS.--Water-discharge records good. Many small diversions for irrigation above station.

AVERAGE DISCHARGE.--59 years (water years 1925-29, 1931-84), 112 ft³/s (3.91 in/yr), 81,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 162,000 ft³/s July 1, 1932 (gage height, 34.44 ft, from floodmarks), from rating curve extended above 44,000 ft³/s on basis of flow-over-dam measurement of 56,600 ft³/s and slope-area measurement of 162,000 ft³/s; no flow Aug. 5, 1956, to Jan 6, 1957.
Maximum stage since at least 1869, that of July 1, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,300 ft³/s Nov. 5 at 1700 hours (gage height, 5.51 ft), no other peak above base of 500 ft³/s; minimum daily, 5.8 ft³/s Aug. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	67	89	70	63	54	43	34	28	19	14	13
2	41	66	91	72	63	54	43	35	26	20	14	11
3	40	74	91	70	61	54	42	33	24	18	14	14
4	41	114	89	70	60	54	40	32	25	17	14	13
5	40	574	88	69	60	56	41	31	25	17	13	11
6	39	395	86	67	60	56	43	30	33	16	19	12
7	39	212	86	67	59	54	43	28	33	15	15	12
8	40	171	86	75	60	54	43	27	29	14	13	12
9	150	152	85	85	60	54	41	27	29	14	12	12
10	90	139	83	73	60	53	39	27	28	13	11	12
11	64	132	81	72	60	53	41	27	27	13	11	12
12	56	128	81	71	61	51	38	26	28	14	5.8	10
13	54	123	79	70	58	48	38	26	29	14	6.6	9.6
14	56	120	79	70	59	48	37	25	27	13	9.7	10
15	56	115	80	69	59	48	37	25	27	12	11	13
16	58	112	78	67	58	48	37	27	26	11	11	12
17	58	111	78	69	58	49	37	29	25	11	11	11
18	60	111	78	67	57	48	36	32	23	10	11	10
19	59	107	76	67	56	46	36	34	23	12	11	11
20	70	105	78	67	56	47	36	34	22	14	10	11
21	130	105	77	67	56	47	34	31	21	13	10	12
22	119	103	75	66	56	48	34	30	21	12	9.4	12
23	96	98	75	67	56	47	35	30	20	13	9.3	12
24	86	98	73	65	56	46	34	30	20	12	9.3	11
25	81	97	73	65	56	46	34	28	20	19	8.3	11
26	77	96	73	65	52	46	34	26	17	20	8.1	11
27	74	95	72	63	51	46	34	25	15	18	9.2	11
28	72	95	72	63	54	44	34	24	14	17	8.6	10
29	72	95	70	62	55	45	35	26	22	16	7.6	14
30	69	94	71	62	---	45	34	27	19	14	7.2	14
31	68	---	70	63	---	44	---	24	---	14	9.3	---
TOTAL	2095	4104	2463	2115	1680	1533	1133	890	726	455	333.4	349.6
MEAN	67.6	137	79.5	68.2	57.9	49.5	37.8	28.7	24.2	14.7	10.8	11.7
MAX	150	574	91	85	63	56	43	35	33	20	19	14
MIN	39	66	70	62	51	44	34	24	14	10	5.8	9.6
CFSM	.17	.34	.20	.17	.14	.12	.09	.07	.06	.04	.03	.03
IN.	.19	.38	.23	.19	.15	.14	.10	.08	.07	.04	.03	.03
AC-FT	4160	8140	4890	4200	3330	3040	2250	1770	1440	902	661	693

CAL YR 1983	TOTAL	26005.0	MEAN 71.2	MAX 574	MIN 30	CFSM .18	IN 2.39	AC-FT	51580	
WTR YR 1984	TOTAL	17877.0	MEAN 48.8	MAX 574	MIN 5.8	CFSM .12	IN 1.64	AC-FT	35460	

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 26...	1342	64	421	8.1	13.5	<1	.50	10.6	106	.4	K9	K8
APR 19...	1345	38	399	8.2	21.0	5	.90	9.3	110	.2	K7	21
AUG 15...	1530	9.3	367	7.9	29.0	2	1.0	8.9	121	.7	K21	K2

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN 26...	220	17	62	15	7.3	.2	.80	200	17	13	.10	9.6
APR 19...	190	10	53	14	7.2	.2	.90	180	16	12	.20	9.7
AUG 15...	170	20	46	14	7.8	.3	1.5	153	19	13	.10	14

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 26...	240	2	<2	--	<.010	.70	<.010	--	.20	<.010	.5
APR 19...	220	<2	<2	.29	.010	.30	.070	.13	.20	<.010	.9
AUG 15...	210	1	1	--	<.010	.10	.030	--	--	<.010	1.8

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 26...	1342	<1	34	<1	<10	3	5
AUG 15...	1530	<1	33	<1	<10	<1	6

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 26...	<1	<1	<.1	<1	<1	4
AUG 15...	<1	<1	<.1	<1	1	<3

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 26...	1342	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01
AUG 15...	1530	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
JAN 26...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
AUG 15...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 26...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01
AUG 15...	<.01	<.01	<.1	<1	<.01	--	--	--	--

08196000 DRY FRIO RIVER NEAR REAGAN WELLS, TX

LOCATION.--lat 29°30'16", long 99°46'52", Uvalde County, Hydrologic Unit 12110106, on right bank 2.3 mi upstream from bridge on U.S. Highway 83, 3.1 mi upstream from Rocky Creek, 4.3 mi southeast of Reagan Wells, and 25.9 mi upstream from mouth.

DRAINAGE AREA.--126 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1712: 1953. WSP 1923: 1955(M). WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,335.2 ft State Department of Highways and Public Transportation datum.

REMARKS.--Water-discharge records good prior to July 23 and fair thereafter. Several small diversions above station.

AVERAGE DISCHARGE.--32 years, 33.7 ft³/s (3.63 in/yr), 24,420 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123,000 ft³/s Aug. 13, 1966 (gage height, 27.6 ft, from floodmark), from rating curve extended above 900 ft³/s on basis of slope-area measurements of 11,400, 30,700, 64,700, and 123,000 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875 occurred in 1880 (about 33 ft). Flood of June 14, 1935, reached a stage of 26.0 ft (discharge, 64,700 ft³/s, determined at site 2.6 mi upstream), and flood of July 1, 1932, reached a stage of 23 ft (discharge, 30,700 ft³/s, determined at site 2.0 mi upstream), from information by local residents.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 9	0500	208	3.18
Nov. 5	1100	*1,390	5.03

Minimum daily discharge, 0.04 ft³/s Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	13	16	12	9.4	7.2	6.0	3.4	2.6	4.7	5.2	.05
2	5.0	12	16	12	9.4	7.2	6.3	3.4	2.5	4.2	5.0	.04
3	4.7	13	16	12	9.4	7.2	6.0	3.2	2.5	3.8	4.5	.09
4	4.7	20	16	12	9.4	7.2	5.7	3.2	2.5	3.6	3.8	.14
5	4.7	420	16	12	9.0	7.2	5.7	3.0	3.5	3.4	3.4	.12
6	4.5	122	16	12	9.0	7.2	5.7	3.0	4.0	3.2	2.8	.12
7	4.5	64	15	12	9.0	7.2	6.6	2.8	3.5	3.0	2.1	.14
8	4.5	51	15	13	9.0	6.9	6.9	2.8	3.0	2.6	1.9	.14
9	47	41	15	16	9.0	6.9	6.3	2.6	3.0	2.4	1.7	.12
10	24	36	15	12	9.0	6.9	5.5	2.8	2.8	2.4	1.4	.07
11	22	32	14	11	9.0	6.9	5.2	2.6	2.8	2.3	1.3	.05
12	19	30	14	11	9.8	7.5	5.2	2.4	3.0	2.1	1.1	.05
13	18	27	14	11	9.0	7.5	5.2	2.3	3.6	2.0	1.3	.07
14	17	25	14	10	8.6	7.2	4.7	2.0	4.0	2.0	2.0	.07
15	16	24	14	10	8.2	7.2	4.7	2.0	4.0	1.8	2.1	.80
16	16	22	14	10	8.2	7.2	4.5	2.1	3.8	1.7	2.3	.80
17	15	21	14	9.8	8.2	7.2	4.5	2.8	3.6	1.7	2.0	.45
18	14	21	13	9.8	8.2	7.2	4.5	3.0	3.4	1.7	1.3	.43
19	14	21	13	9.8	8.2	6.9	4.3	4.0	3.2	1.7	.89	.51
20	16	19	13	9.8	8.2	6.6	4.5	5.0	3.0	1.7	.72	.72
21	18	19	13	9.4	7.9	6.6	4.0	4.0	2.8	1.5	.51	1.1
22	17	19	13	9.0	7.9	6.6	3.6	3.4	2.6	1.7	.51	1.4
23	16	18	13	9.0	7.5	6.6	3.4	3.4	2.4	1.7	.80	1.8
24	16	17	13	9.0	7.5	6.6	3.4	3.4	2.3	1.7	.34	2.1
25	15	16	13	9.0	7.5	6.3	3.4	3.2	2.3	1.8	.18	2.3
26	14	16	13	9.0	7.5	6.3	3.6	3.0	2.1	1.8	.14	2.6
27	14	16	13	9.0	7.2	6.3	3.4	2.8	2.0	1.8	.12	3.0
28	13	16	12	9.0	7.2	6.0	3.4	2.8	2.4	2.3	.07	3.8
29	13	16	12	9.0	7.2	5.7	3.4	2.6	7.5	3.4	.05	7.2
30	13	16	12	9.0	---	5.7	3.4	2.6	6.0	4.0	.18	5.5
31	13	---	12	9.0	---	5.7	---	2.6	---	4.7	.12	---
TOTAL	437.6	1203	432	326.6	244.6	210.9	143.0	92.2	96.7	78.4	49.83	35.78
MEAN	14.1	40.1	13.9	10.5	8.43	6.80	4.77	2.97	3.22	2.53	1.61	1.19
MAX	47	420	16	16	9.8	7.5	6.9	5.0	7.5	4.7	5.2	7.2
MIN	4.5	12	12	9.0	7.2	5.7	3.4	2.0	2.0	1.5	.05	.04
CFSM	.12	.34	.12	.09	.07	.06	.04	.03	.03	.02	.01	.01
IN.	.14	.38	.14	.10	.08	.07	.05	.03	.03	.02	.02	.01
AC-FT	868	2390	857	648	485	418	284	183	192	156	99	71

CAL YR 1983	TOTAL	5986.30	MEAN 16.4	MAX 420	MIN 3.4	CFSM .14	IN 1.90	AC-FT	11870	
WTR YR 1984	TOTAL	3350.61	MEAN 9.15	MAX 420	MIN .04	CFSM .08	IN 1.07	AC-FT	6650	

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 26...	1542	9.0	383	8.0	13.5	<1	.40	11.4	115	.3	K4	K9
APR 19...	1030	4.5	378	8.2	19.5	5	.50	8.4	97	.2	32	41
AUG 15...	1322	1.8	390	8.1	29.0	4	.60	9.6	130	.6	K6	K6

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN 26...	190	22	56	13	6.1	.2	.50	172	15	12	<.10	7.3
APR 19...	180	17	54	12	6.3	.2	.50	168	16	11	.10	8.8
AUG 15...	190	15	56	13	6.9	.2	1.4	179	15	11	<.10	12

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 26...	210	<2	<2	--	<.010	.90	<.010	--	<.20	<.010	.8
APR 19...	210	<2	<2	.29	.010	.30	.080	.12	.20	<.010	1.0
AUG 15...	220	12	12	--	<.010	.10	.030	.17	.20	<.010	1.8

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 26...	1542	<1	33	<1	<10	3	<3
AUG 15...	1322	<1	44	<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)
JAN 26...	<1	<1	.1	<1	<1	<3
AUG 15...	1	1	<.1	<1	<1	23

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 26...	1542	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01
AUG 15...	1322	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
JAN 26...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
AUG 15...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 26...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	.01
AUG 15...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01

08197500 FRIO RIVER BELOW DRY FRIO RIVER NEAR UVALDE, TX

LOCATION.--Lat 29°14'44", long 99°40'27", Uvalde County, Hydrologic Unit 12110106, on right bank 1.1 mi upstream from Farm Road 1023, 5.7 mi downstream from Dry Frio River, 6.3 mi downstream from bridge on U.S. Highway 90, 7.2 mi northeast of Uvalde, and 194.5 mi upstream from mouth.

DRAINAGE AREA.--631 mi².

PERIOD OF RECORD.--September 1952 to current year. Sum of records published as Frio River at Knippa and Dry Frio River at Knippa for period September 1952 to September 1953 is equivalent to record for this station.

REVISED RECORDS.--WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 882.47 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Part of flow of Frio River enters the Edwards and associated limestones in the Balcones Fault Zone, which crosses basin between Concan (station 08195000) and this station. Most of low flow enters this formation. Many diversions for irrigation above station.

AVERAGE DISCHARGE.--32 years, 28.4 ft³/s (20,580 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,500 ft³/s Aug. 13, 1966 (gage height, 23.88 ft, from floodmark), from rating curve extended above 12,000 ft³/s on basis of slope-area measurements of 24,400, 53,000, and 88,500 ft³/s; no flow most of time each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, about 35 ft in 1894. Flood of July 1, 1932, reached a stage of about 30 ft. A higher flood than that of 1894 occurred prior to 1887. Above information by local residents.

EXTREMES FOR CURRENT YEAR.--No flow for the year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR 1983 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00
WTR YR 1984 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00

08198000 SABINAL RIVER NEAR SABINAL, TX

LOCATION.--Lat 29°29'27", long 99°29'33", Uvalde County, Hydrologic Unit 12110106, on right bank 108 ft upstream from concrete dam, 2.3 mi downstream from mouth of Onion Creek, 12.5 mi north of Sabinal, and 41.6 mi upstream from mouth.

DRAINAGE AREA.--206 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1942 to current year.

REVISED RECORDS.--WSP 1312: 1943(M), 1944(M), 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 1,131.20 ft National Geodetic Vertical Datum of 1929. Prior to Apr. 9, 1971, at site 0.3 mi downstream at same datum.

REMARKS.--Water-discharge records good. Several small diversions above station for irrigation.

AVERAGE DISCHARGE.--42 years, 55.5 ft³/s (3.66 in/yr), 40,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,200 ft³/s June 17, 1958 (gage height, 28.3 ft, from floodmark, at present site), from rating curve extended above 6,900 ft³/s on basis of slope-area measurement of 55,200 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1892, about 33 ft July 2, 1932, from information by local residents. There is a legend that a flood in the middle 1800's reached a stage of nearly 63 ft, see flood history for station 08198500.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,820 ft³/s Nov. 5 at 1500 hours (gage height, 7.92 ft), no other peak above base of 1,000 ft³/s; minimum daily, 0.18 ft³/s Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	11	36	28	34	27	18	11	8.1	5.0	3.8	.88
2	8.8	11	35	29	34	28	18	12	8.1	5.0	3.7	.88
3	8.8	10	38	29	34	29	18	12	8.1	4.3	3.0	.88
4	8.8	101	36	29	33	27	18	11	7.6	3.5	2.9	.88
5	8.8	621	38	29	32	26	18	11	77	2.7	2.7	.88
6	8.8	238	34	28	32	26	17	11	28	2.4	2.7	.88
7	8.8	106	33	27	33	26	17	11	20	2.1	2.2	.88
8	8.8	80	34	30	34	25	18	10	18	2.1	1.8	.88
9	15	69	34	126	34	26	18	9.3	16	2.1	1.3	.88
10	12	61	34	71	32	26	17	9.3	14	1.8	1.3	.88
11	9.6	55	32	57	32	26	16	9.6	13	1.8	1.1	.88
12	9.6	54	32	51	33	26	16	8.7	13	1.3	1.1	.88
13	9.3	51	30	45	32	25	16	8.1	15	1.3	.98	.70
14	9.6	47	30	43	31	24	14	8.1	18	1.3	.89	.70
15	9.6	45	31	40	32	24	14	8.1	12	1.3	.83	.70
16	9.6	41	30	40	30	24	14	8.4	9.4	1.3	1.0	.70
17	9.6	44	29	41	30	24	14	9.7	8.0	1.3	1.1	.70
18	9.6	45	29	42	30	23	14	10	7.4	1.2	1.1	.70
19	9.6	41	27	40	29	23	14	12	7.3	1.2	1.1	.54
20	11	37	27	40	29	22	13	15	6.7	1.1	1.1	.41
21	12	39	29	40	30	22	12	12	6.7	1.1	1.1	.32
22	13	42	30	40	29	22	11	10	6.1	1.1	1.1	.28
23	12	44	30	41	29	20	12	9.6	5.0	1.1	1.1	.24
24	12	41	27	39	30	20	12	9.6	5.0	1.6	1.1	.21
25	11	40	27	39	29	20	12	8.9	4.5	3.3	1.1	.20
26	11	39	29	39	28	21	12	8.1	4.1	4.1	1.1	.19
27	12	37	29	38	27	21	11	8.0	3.7	3.8	1.1	.19
28	11	37	28	34	26	19	10	16	4.1	4.6	1.1	.18
29	11	37	27	36	28	19	11	16	4.8	4.1	1.1	.19
30	11	38	27	35	---	19	11	9.8	4.8	3.8	.88	.19
31	11	---	27	34	---	19	---	8.2	---	4.1	.88	---
TOTAL	321.5	2162	959	1280	896	729	436	321.5	363.5	76.8	47.36	17.90
MEAN	10.4	72.1	30.9	41.3	30.9	23.5	14.5	10.4	12.1	2.48	1.53	.60
MAX	15	621	38	126	34	29	18	16	77	5.0	3.8	.88
MIN	8.8	10	27	27	26	19	10	8.0	3.7	1.1	.83	.18
CFSM	.05	.35	.15	.20	.15	.11	.07	.05	.06	.01	.007	.003
IN.	.06	.39	.17	.23	.16	.13	.08	.06	.07	.01	.01	.00
AC-FT	638	4290	1900	2540	1780	1450	865	638	721	152	94	36

CAL YR 1983	TOTAL	11863.30	MEAN 32.5	MAX 621	MIN 8.8	CFSM .16	IN 2.14	AC-FT	23530
WTR YR 1984	TOTAL	7610.56	MEAN 20.8	MAX 621	MIN .18	CFSM .10	IN 1.37	AC-FT	15100

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 27...	0912	38	477	8.0	11.0	<1	.50	10.4	98	.5	130	42
APR 20...	1020	14	442	8.1	20.0	5	.70	8.2	95	.3	57	88
AUG 16...	1550	1.1	460	7.9	27.0	4	.80	7.6	99	.7	33	68

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN 27...	240	37	73	14	7.7	.2	1.0	203	29	13	.20	9.6
APR 20...	210	24	62	13	7.9	.2	1.0	185	32	12	.20	10
AUG 16...	230	36	69	13	8.7	.3	1.7	190	29	13	.20	15

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, 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)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
JAN 27...	270	<2	<2	<.010	.50	<.010	--	<.20	<.010	.6	--
APR 20...	250	3	<2	<.010	.10	.090	.11	.20	<.010	.7	--
AUG 16...	260	2	1	<.010	<.10	.020	--	--	<.010	1.9	1.8

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 27...	0912	<1	35	<1	<10	2	5
AUG 16...	1550	<1	36	<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)
JAN 27...	<1	<1	.1	<1	<1	7
AUG 16...	1	9	<.1	<1	<1	4

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 27...	0912	<.1	<.10	<.01	<.1	<.01	<.01	--	<.01	<.01
AUG 16...	1550	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
JAN 27...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
AUG 16...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 27...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01
AUG 16...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01

08198500 SABINAL RIVER AT SABINAL, TX

LOCATION.--Lat 29°18'05", long 99°28'46", Uvalde County, Hydrologic Unit 12110106, on left bank 80 ft downstream from bridge on U.S. Highway 90, 1,100 ft downstream from Southern Pacific Lines railroad bridge, 0.8 mi west of Sabinal, and 5.8 mi upstream from Ranchero Creek, and 223 mi upstream from mouth.

DRAINAGE AREA.--241 mi².

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

REVISED RECORDS.--WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 882.17 ft National Geodetic Vertical Datum of 1929. Prior to July 29, 1958, nonrecording gage, and July 29, 1958, to Mar. 19, 1964, water-stage recorder at site 80 ft upstream at same datum.

REMARKS.--Records fair. Several small diversions for irrigation above station. Most of low flow of the Sabinal River enters the Edwards and associated limestones in the Balcones Fault Zone, which crosses basin upstream from this station and downstream from Sabinal River near Sabinal (station 08198000). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--32 years, 31.0 ft³/s (22,460 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,300 ft³/s June 17, 1958 (gage height, 33.3 ft); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 40 ft Aug. 24, 1919, from information by local residents. Flood of July 2, 1932, reached a stage of 31 ft (discharge, 60,000 ft³/s), from information by Southern Pacific Lines. There is a legend that a flood in 1858 covered the townsite of Sabinal. The stage would have been 70 to 80 ft, which seems unlikely. However, it is possible that a flood occurred in 1858 that covered part of the townsite and was higher than any flood since that date.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 568 ft³/s Nov. 6 at 0300 hours (gage geight, 7.11 ft), no other peak above base of 100 ft³/s; minimum daily, 0.35 ft³/s June 1-3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	.65	1.9	1.6	1.0	.78	.60	.47	.35	.54	.53	.54
2	.42	.68	2.0	1.5	1.0	.78	.60	.47	.35	.54	.53	.54
3	.42	1.4	2.0	1.5	1.0	.78	.60	.47	.35	.54	.53	.54
4	.42	1.3	1.9	1.5	1.0	.75	.55	.47	.93	.54	.53	.54
5	.42	1.7	1.9	1.5	1.0	.75	.55	.45	.44	.54	.53	.52
6	.42	228	1.9	1.5	1.0	.75	.55	.45	6.8	.54	.53	.52
7	.42	33	1.9	1.5	.95	.75	2.5	.45	1.0	.54	.53	.52
8	.42	8.3	1.9	1.5	.95	.75	1.0	.45	.70	.54	.53	.52
9	2.0	4.7	1.9	1.4	.95	.70	.70	.45	.60	.54	.53	.52
10	1.2	4.3	1.8	1.4	.95	.70	.60	.45	.60	.54	.53	.52
11	1.0	4.2	1.8	1.4	.95	.70	.58	.70	.60	.54	.53	.52
12	.90	4.0	1.8	1.4	.95	.70	.55	.50	.56	.54	.53	.52
13	.90	3.9	1.8	1.4	.95	.70	.52	.45	.56	.54	.53	.52
14	.91	3.8	1.8	1.4	.90	.70	.52	.44	.56	.54	.75	.52
15	.93	3.6	1.8	1.4	.90	.70	.52	.43	.56	.54	1.0	1.2
16	.98	3.3	1.7	1.3	.90	.70	.52	.43	.56	.54	1.3	.92
17	1.1	3.1	1.7	1.3	.90	.70	.52	.43	.56	.54	.58	.65
18	1.0	3.0	1.7	1.3	.90	.70	.52	.43	.56	.54	.56	.49
19	.96	2.7	1.7	1.3	.90	.70	.52	.43	.56	.54	.56	.49
20	1.0	2.5	1.7	1.1	.85	.65	.49	.40	.54	.54	.56	.49
21	.93	2.3	1.7	1.1	.85	.65	.49	.40	.54	.54	.56	1.0
22	.84	2.3	1.7	1.1	.85	.65	.49	.40	.54	.54	.56	.60
23	.77	2.3	1.7	1.1	.85	.65	.49	.40	.54	.54	.56	.54
24	.68	2.4	1.6	1.1	.85	.65	.49	.40	.54	.54	.56	.54
25	.71	2.1	1.6	1.1	.85	.65	.49	.40	.54	.54	.54	.52
26	.74	2.1	1.6	1.1	.80	.65	.49	.40	.54	.54	.54	.52
27	.83	2.1	1.6	1.0	.80	.65	.49	.40	.54	.54	.54	.52
28	.72	2.0	1.6	1.0	.80	.60	.49	.40	.54	.54	.54	.50
29	.71	2.0	1.6	1.0	.80	.60	.47	.38	.54	.54	.54	.50
30	.69	2.0	1.6	1.0	---	.60	.47	.38	.54	.53	.54	.50
31	.65	---	1.6	1.0	---	.60	---	.38	---	.53	.54	---
TOTAL	24.51	339.73	54.5	39.8	26.35	21.39	18.37	13.56	23.14	16.72	18.22	17.34
MEAN	.79	11.3	1.76	1.28	.91	.69	.61	.44	.77	.54	.59	.58
MAX	2.0	228	2.0	1.6	1.0	.78	2.5	.70	6.8	.54	1.3	1.2
MIN	.42	.65	1.6	1.0	.80	.60	.47	.38	.35	.53	.53	.49
AC-FT	49	674	108	79	52	42	36	27	46	33	36	34

CAL YR 1983 TOTAL 594.58 MEAN 1.63 MAX 228 MIN .25 AC-FT 1180
WTR YR 1984 TOTAL 613.63 MEAN 1.68 MAX 228 MIN .35 AC-FT 1220

08200000 HONDO CREEK NEAR TARPLEY, TX

LOCATION.--Lat 29°34'10", long 99°14'47", Medina County, Hydrologic Unit 12110107, on left bank 460 ft downstream from bridge on Ranch Road 462, 6.3 mi southeast of Tarpley, and 16.6 mi northwest of Hondo.

DRAINAGE AREA.--95.6 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1712: 1957. WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,169.1 ft Magnolia Oil Co. datum.

REMARKS.--Water-discharge records good. Several small diversions for irrigation above station.

AVERAGE DISCHARGE.--32 years, 37.6 ft³/s (5.34 in/yr), 27,240 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,800 ft³/s June 17, 1958 (gage height, 28.2 ft, from floodmark), from rating curve extended above 2,600 ft³/s on basis of slope-area measurements of 18,600 and 69,800 ft³/s; no flow at times in 1952-57, 1962-64, 1967, 1971, and 1984.
Maximum stage since at least 1907, that of June 17, 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1932 reached a stage of about 26 ft (discharge, 58,500 ft³/s), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 92 ft³/s Nov. 5 at 1500 hours (gage height, 2.02 ft), no peak above base of 500 ft³/s; no flow July 5 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.8	10	6.2	8.6	5.0	2.9	1.3	.37	.24	.00	.00
2	3.3	3.8	12	7.6	9.0	4.7	3.3	1.5	.32	.15	.00	.00
3	3.3	3.8	11	6.5	8.2	4.7	2.9	1.1	.28	.10	.00	.00
4	3.3	8.5	10	6.5	8.2	4.7	2.5	1.0	.32	.06	.00	.00
5	3.1	29	10	6.5	7.9	4.4	2.7	.90	8.1	.00	.00	.00
6	3.1	23	9.0	6.2	7.9	4.4	3.1	.70	22	.00	.00	.00
7	2.9	19	9.0	5.9	9.3	4.4	4.7	.90	2.9	.00	.00	.00
8	3.1	18	9.0	8.6	9.3	4.1	4.4	.70	1.9	.00	.00	.00
9	14	17	8.6	21	9.3	4.1	3.5	.46	1.7	.00	.00	.00
10	5.0	16	9.0	16	9.0	4.4	3.3	.41	1.5	.00	.00	.00
11	4.1	15	8.6	14	9.0	5.0	3.1	.41	1.5	.00	.00	.00
12	4.1	14	8.2	13	10	8.2	3.1	.41	1.4	.00	.00	.00
13	3.5	13	7.9	12	8.6	6.8	3.1	.41	1.5	.00	.00	.00
14	3.5	13	7.6	11	7.9	7.2	2.7	.41	1.4	.00	.00	.00
15	3.5	12	7.2	11	7.6	6.8	2.5	.60	1.4	.00	.00	.00
16	3.5	11	7.2	11	7.2	6.5	2.5	.70	1.0	.00	.00	.00
17	3.5	12	6.8	11	7.2	6.2	2.1	1.3	.80	.00	.00	.00
18	3.5	12	6.8	11	6.8	5.9	2.2	2.1	.70	.00	.00	.00
19	3.3	12	6.5	10	6.5	5.3	2.3	1.3	.60	.00	.00	.00
20	8.7	10	6.5	9.6	6.5	5.0	1.7	1.2	.60	.00	.00	.00
21	5.0	11	6.8	9.6	6.2	5.0	1.5	.90	.46	.00	.00	.00
22	3.8	12	7.9	10	6.8	4.7	1.4	1.0	.46	.00	.00	.00
23	3.8	18	7.2	11	5.9	4.7	1.5	.90	.41	.00	.00	.00
24	3.8	12	4.7	10	5.9	3.8	1.5	.80	.37	.00	.00	.00
25	4.4	12	5.6	9.6	5.9	3.5	1.7	.70	.37	.00	.00	.00
26	4.1	12	5.6	9.3	6.2	3.5	1.7	.60	.32	.00	.00	.00
27	4.1	12	6.2	9.3	5.0	3.3	1.4	.46	.28	.00	.00	.00
28	3.8	11	5.9	9.3	5.0	2.5	1.3	.70	.32	.00	.00	.00
29	3.8	11	4.4	9.0	5.0	2.5	1.5	.80	.28	.00	.00	.00
30	3.8	11	5.6	8.6	---	2.7	1.2	.60	.28	.00	.00	.00
31	3.8	---	5.6	9.0	---	2.9	---	.41	---	.00	.00	---
TOTAL	130.0	387.9	236.4	309.3	215.9	146.9	73.3	25.68	53.84	.55	.00	.00
MEAN	4.19	12.9	7.63	9.98	7.44	4.74	2.44	.83	1.79	.018	.000	.000
MAX	14	29	12	21	10	8.2	4.7	2.1	22	.24	.00	.00
MIN	2.9	3.8	4.4	5.9	5.0	2.5	1.2	.41	.28	.00	.00	.00
CFSM	.05	.15	.09	.12	.09	.06	.03	.01	.02	.000	.000	.000
IN.	.06	.17	.10	.13	.09	.06	.03	.01	.02	.00	.00	.00
AC-FT	258	769	469	613	428	291	145	51	107	1.1	.00	.00

CAL YR 1983	TOTAL	6386.00	MEAN 17.5	MAX 304	MIN 2.3	CFSM .20	IN 2.76	AC-FT	12670	
WTR YR 1984	TOTAL	1579.77	MEAN 4.32	MAX 29	MIN .00	CFSM .05	IN .68	AC-FT	3130	

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 25...	1250	9.5	423	8.2	11.0	<1	.50	11.4	107	.2	K7	K12
APR 18...	1745	2.3	420	8.2	21.0	5	1.0	9.4	111	.0	56	39

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JAN 25...	210	40	66	11	6.4	.2	1.1	170	40	11	.20
APR 18...	190	42	57	12	8.0	.3	1.2	150	49	12	.30

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)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 25...	8.1	250	<2	<2	<.010	.20	<.010	--	.20	<.010	.6
APR 18...	11	240	6	<2	.010	<.10	.080	.12	.20	<.010	1.2

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 25...	1250	1	28	<1	<10	2	7

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 25...	1	2	<.1	<1	<1	9

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
JAN 25...	1250	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
JAN 25...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 25...	.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01

NUECES RIVER BASIN

08204000 LEONA RIVER SPRING FLOW NEAR UVALDE, TX

LOCATION.--Lat 29°09'15", long 99°44'35", Uvalde County, Hydrologic Unit 12110106 at old road crossing on White's Ranch, 2.0 mi (3.2 km) downstream from Cooks Slough, and 4.7 mi (7.6 km) southeast of Uvalde.

DRAINAGE AREA.--Not applicable. Normal flow of river comes from springs.

PERIOD OF RECORD.--1939 to current year. Occasional discharge measurements 1925-39 in connection with seepage investigations. Operated as continuous record station from January 1939 to September 1965. Occasional discharge measurements since September 1965.

GAGE.--Nonrecording. Datum of gage is 838.39 ft (255.541 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Discharge represents flow from several springs that enter river above station and below Uvalde. Surface runoff from precipitation is excluded. No known diversion above station.

AVERAGE DISCHARGE.--26 years (during period of continuous record, water years 1940-65), 9.72 ft^3/s (0.275 m^3/s), 7,040 acre-ft/yr (8.68 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--(1939 to current year) Maximum measured spring discharge, 82 ft^3/s (2.32 m^3/s) May 25, 1977; no flow at times in 1948-49, 1951-59, 1964-68.

DISCHARGE MEASUREMENTS, IN CUBIC FEET PER SECOND
WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)
Oct. 19, 1983	16.8	Feb. 29, 1984	10.7	Aug. 8, 1984	0
Nov. 29,	18.0	Apr. 24	2.57	Sept. 17	0
Jan. 18, 1984	20.4	June 12	0		

08200700 HONDO CREEK AT KING WATERHOLE NEAR HONDO, TX

LOCATION.--Lat 29°23'26", long 99°09'04", Medina County, Hydrologic Unit 12110107, on left bank 0.3 mi downstream from county road low-water crossing, 3.1 mi north of Hondo, 7.8 mi upstream from Verde Creek, and 55.4 mi upstream from mouth.

DRAINAGE AREA.--149 mi².

PERIOD OF RECORD.--October 1960 to current year.

REVISED RECORDS.--WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 897.87 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Most of the low flow of Hondo Creek enters Edwards and associated limestones in the Balcones Fault Zone, which crosses basin between Tarpley (station 08200000) and this station. Small diversions above station for irrigation, amounts unknown.

AVERAGE DISCHARGE.--24 years, 13.5 ft³/s (9,780 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,900 ft³/s July 15, 1973 (gage height, 16.4 ft, from floodmark), from rating curve extended above 9,800 ft³/s on basis of contracted-opening measurement of peak flow; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 21 ft in September 1919, from information by local resident. Other floods occurred in July 1932, stage 18 ft and June 17, 1958, stage 17 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 516 ft³/s June 5 at 0830 hours (gage height, 3.11 ft), no other peak above base of 500 ft³/s; no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	56	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	49	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.28	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00.	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	105.28	.00	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	3.51	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	56	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	209	.00	.00	.00

CAL YR 1983	TOTAL	1275.57	MEAN 3.49	MAX 600	MIN .00	AC-FT 2530
WTR YR 1984	TOTAL	105.28	MEAN .29	MAX 56	MIN .00	AC-FT 209

08201500 SECO CREEK AT MILLER RANCH NEAR UTOPIA, TX

LOCATION.--Lat 29°34'23", long 99°24'10", Medina County, Hydrologic Unit 12110107, on right bank 200 ft upstream from county road crossing, 4.5 mi downstream from Cascade Creek, 7.9 mi southeast of Utopia, and 58.0 mi upstream from mouth.

DRAINAGE AREA.--45.0 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder, crest-stage gages, and concrete control. Datum of gage is 1,265.8 ft Magnolia Oil Co. datum, adjustment unknown.

REMARKS.--Water-discharge records good except those for period of no gage-height record, which are fair. No known diversion above station.

AVERAGE DISCHARGE.--23 years, 17.6 ft³/s (5.31 in/yr), 12,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,500 ft³/s July 15, 1973 (gage height, 14.4 ft, from floodmark), from rating curve extended above 910 ft³/s on basis of field estimate of flow over and around end of dam, 14,100 ft³/s, and slope-area measurement of 52,600 ft³/s; no flow for many days in 1963-64.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1901, 16.4 ft June 17, 1958, from floodmarks (discharge 52,600 ft³/s, by slope-area measurement of peak flow).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 220 ft³/s Jan. 9 at 0030 hours (gage height, 2.61 ft), no peak above base of 600 ft³/s; minimum daily, 0.04 ft³/s July 16-19, 21-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.2	2.9	2.4	4.9	2.6	2.2	.79	.32	.36	.27	.06
2	1.4	1.2	3.0	2.8	4.9	2.6	2.2	.87	.22	.30	.18	.05
3	1.3	1.4	3.3	2.8	4.5	2.6	2.2	.91	.17	.19	.18	1.8
4	1.3	6.3	2.9	2.4	4.3	2.6	2.2	.74	.18	.13	.16	1.0
5	1.3	21	2.8	2.4	4.3	2.6	2.0	.58	1.9	.11	.09	.34
6	1.3	6.9	2.6	2.3	4.3	2.6	2.0	.58	10	.11	.09	.25
7	1.2	4.8	2.6	2.2	4.3	2.6	1.8	.58	2.4	.09	.09	.18
8	1.2	4.3	2.6	8.1	4.3	2.6	1.8	.50	1.5	.08	.07	.29
9	6.4	4.0	2.6	38	3.9	2.6	1.8	.46	1.2	.07	.07	.26
10	2.5	3.4	2.6	7.5	3.9	2.6	1.7	.36	1.1	.06	.07	.23
11	1.6	3.4	2.5	6.5	3.9	2.6	1.7	.36	.78	.05	.07	.17
12	1.3	3.2	2.4	6.5	4.4	3.6	1.7	.36	.68	.05	.07	.15
13	1.3	3.1	2.3	6.2	3.6	3.4	1.6	.35	.82	.05	.07	.15
14	1.2	3.1	2.2	6.1	3.6	3.4	1.6	.33	1.3	.05	.07	.15
15	1.2	2.7	2.2	6.1	3.4	3.4	1.6	.36	1.3	.05	.56	.15
16	1.2	2.6	2.4	6.1	3.4	3.4	1.4	.39	1.1	.04	.42	.14
17	1.2	2.6	2.4	6.1	3.4	3.1	1.4	.76	.84	.04	.27	.10
18	1.2	2.6	2.4	5.8	3.4	3.1	1.4	1.1	.53	.04	.24	.09
19	1.2	2.6	2.4	5.3	3.2	3.1	1.3	1.3	.38	.04	.22	.09
20	4.4	2.4	2.4	5.3	3.4	3.1	1.3	1.4	.29	.05	.17	.09
21	2.9	2.5	2.4	5.3	3.4	2.8	1.2	1.2	.29	.04	.23	.11
22	1.6	3.0	2.3	5.4	3.4	2.8	1.2	1.1	.29	.04	.21	.08
23	1.4	8.3	2.2	5.7	3.4	2.8	1.2	.74	.27	.04	.17	.06
24	1.4	3.5	3.4	5.4	3.4	2.8	1.1	.52	.23	.13	.14	.05
25	1.4	3.1	1.9	5.3	3.1	2.8	1.1	.42	.22	.64	.11	.05
26	1.3	3.1	2.4	5.3	3.0	2.8	1.1	.36	.18	1.5	.11	.05
27	1.3	3.4	2.2	5.2	2.3	2.6	1.1	.28	.17	2.3	.09	.05
28	1.3	3.1	2.3	4.9	2.3	2.6	1.1	.40	.15	1.5	.09	.06
29	1.3	3.1	2.3	4.9	2.6	2.6	1.0	.68	.17	.95	.09	.10
30	1.3	3.1	2.0	4.7	---	2.4	.91	.65	.30	.56	.09	.08
31	1.2	---	2.1	4.7	---	2.4	---	.50	---	.38	.08	---
TOTAL	51.5	119.0	77.0	187.7	106.2	87.6	45.91	19.93	29.28	10.04	4.84	6.43
MEAN	1.66	3.97	2.48	6.05	3.66	2.83	1.53	.64	.98	.32	.16	.21
MAX	6.4	21	3.4	38	4.9	3.6	2.2	1.4	10	2.3	.56	1.8
MIN	1.2	1.2	1.9	2.2	2.3	2.4	.91	.28	.15	.04	.07	.05
CFSM	.04	.09	.06	.14	.09	.07	.04	.02	.02	.007	.004	.005
IN.	.04	.10	.07	.16	.09	.08	.04	.02	.03	.01	.00	.01
AC-FT	102	236	153	372	211	174	91	40	58	20	9.6	13

CAL YR 1983 TOTAL 1660.60 MEAN 4.55 MAX 39 MIN 1.2 CFSM .11 IN 1.43 AC-FT 3290
WTR YR 1984 TOTAL 745.43 MEAN 2.04 MAX 38 MIN .04 CFSM .05 IN .64 AC-FT 1480

08201500 SECO CREEK AT MILLER RANCH NEAR UTOPIA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 25...	1418	5.5	454	8.4	17.0	<1	.50	10.5	113	.2	34	K17
APR 20...	1540	1.3	394	8.5	31.5	5	.90	9.3	135	.4	230	K4
AUG 17...	0952	.29	384	7.9	25.0	3	1.0	7.4	93	.6	200	46

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JAN 25...	220	61	70	12	6.6	.2	1.1	164	55	12	.20
APR 20...	180	67	53	12	7.5	.3	1.3	115	66	12	.20
AUG 17...	170	45	50	11	7.9	.3	1.7	125	54	13	.20

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)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 25...	8.5	260	2	<2	<.010	.40	<.010	--	.30	<.010	.5
APR 20...	10	230	2	<2	.010	<.10	.100	.20	.30	<.010	2.1
AUG 17...	13	230	<1	<1	<.010	.10	.040	.16	.20	<.010	2.0

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 25...	1418	<1	28	<1	<10	4	4
AUG 17...	0952	<1	27	<1	<10	<1	7

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 25...	<1	<1	<.1	<1	<1	3
AUG 17...	<1	3	<.1	<1	<1	7

08201500 SECO CREEK AT MILLER RANCH NEAR UTOPIA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 25...	1418	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01
AUG 17...	0952	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
JAN 25...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
AUG 17...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 25...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01
AUG 17...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01

08202700 SECO CREEK AT ROWE RANCH NEAR D'HANIS, TX

LOCATION.--Lat 29°21'43", long 99°17'05", Medina County, Hydrologic Unit 12110107, on left bank 2.9 mi north of D'Hanis and 8.0 mi downstream from Rocky Creek.

DRAINAGE AREA.--168 mi².

PERIOD OF RECORD.--November 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 900.88 ft National Geodetic Vertical Datum of 1929. Prior to October 1970, published as "at Crook Ranch, near D'Hanis".

REMARKS.--Records good. All of low flow of Seco Creek enters Edwards and associated limestones in the Balcones Fault Zone, which crosses basin between Miller Ranch (station 08201500) and this station. No known diversion above station.

AVERAGE DISCHARGE.--23 years (water years 1962-84), 8.07 ft³/s (5,850 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,500 ft³/s July 15, 1973 (gage height, 26.0 ft, from floodmark), from rating curve extended above 16,000 ft³/s on basis of slope-area measurement of 35,800 ft³/s; no flow most of time each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1852, 35.7 ft May 31, 1935, from information by local resident. Other floods occurred Aug. 31, 1894, 33 ft; September 1919, 28 ft; July 2, 1932, 28.2 ft (discharge, 35,800 ft³/s), by slope-area measurement; and June 17, 1958, 32.4 ft.

EXTREMES FOR CURRENT YEAR.--No flow during the year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR 1983 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00
WTR YR 1984 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00