U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared in cooperation with the
CITY OF GEORGETOWN

OPEN-FILE REPORT 92-160

INTRODUCTION

The Edwards aquifer is the principal source of freshwater for municipal, domestic, and industrial users in the Georgetown area. Other sources of freshwater are Lake Georgetown and the streams draining the San Gabriel River basin. Lake Georgetown, located on the North Fork San Gabriel River west of Georgetown, is a freshwater supply for some municipalities in the area. Water in the San Gabriel River basin also supplies a variety of needs east of Georgetown. Because of the importance of the Edwards aquifer and the surface waters as a source of freshwater in the area, the U.S. Geological Survey, in cooperation with the city of Georgetown, established a local streamflow and ground-water monitoring network in principal streams and the Edwards aquifer, and conducted surveys of the network in water years 1987, 1988, and 1990. The study area was centered on Georgetown and encompassed an area of about 150 mi^2 (fig. 1).

The freshwater resources in the Georgetown area have been the subject of five recent reports. The reports are: (1) Baker and others (1986), which described the Edwards aquifer and the relation between recharge and discharge; (2) Kreitler and others (1987) and (3) Senger and others (1990), which provided fracture analysis, geologic mapping, ground-water chemistry, and the relation between rainfall and recharge in the study area; (4) Land and Dorsey (1988), which described an investigation to reassess the inclusion of the Georgetown Limestone as one of the geologic units comprising the Edwards aquifer; and (5) Land and Dorsey (1989), which summarized the hydrologic data from the San Gabriel River and Edwards aquifer for the 1988 water year. In addition, the Geological Survey publishes streamflow and water-quality data in the Water Resources Data for Texas report on an annual basis.

The primary purpose of this report is to summarize the hydrologic data collected from the streams draining the San Gabriel River basin and from the Edwards aquifer during the 1990 water year (October 1989-September 1990). A secondary purpose is to show recent changes in flow and water levels. The scope of the report is limited to data collected by the Geological Survey in the Georgetown area (fig. 1).

HYDROLOGIC DATA

The Geological Survey water-resources-monitoring program in the Georgetown area for water year 1990 consisted of a network of 10 stream data-collection sites and a network of 53 observation wells (fig. 1). This monitoring network was established primarily during the 1986 water year and surveyed during the 1986 and 1987 water years in a cooperative program with the Texas Water Development Board, and during the 1988 and 1990 water years in a cooperative program with the city of Georgetown. The surface-water and ground-water surveys were made simultaneously at 7-week intervals so that the two sets of data are related in time and climate conditions. The survey of streamflow sites included the measurement of discharge, specific conductance, pH, and temperature (table 1). The survey of observation wells included the measurement of depth to water and, where possible, specific conductance, pH, and temperature (table 2). Water levels are given in hundredths of a foot except where field notes reflected otherwise.

The ground-water levels and streamflow in the study area are substantially influenced by rainfall. The rainfall totals at Lake Georgetown for the 1987-90 water years were:

Water year	Rainfall total (inches)
1987	49.37
1988	27.63
1989	26.38
1990	29.55

The annual average rainfall from 1950 to 1980 was about 32 in.

The hydrographs showing discharge at four streamflow-gaging stations and daily rainfall at Lake Georgetown (fig. 2) illustrate that discharge and rainfall for the 1988 to 1990 water years were generally less than for the 1987 water year. Runoff events were more numerous and of greater magnitude during 1987 than during 1988, 1989, and 1990.

Hydrographs showing water levels from three observation wells for spring of 1987 through fall of 1988 and water year 1990 are shown in figure 3. These hydrographs show that water levels in water year 1990 were somewhat lower than during 1987-88. From the available record, the hydrograph for observation well ZK-58-27-833, located east of I-35 and north of the city of Round Rock (fig. 1), shows that the greatest declines (about 50 ft) occurred between June 1987 and September 1988 and remained at the lower levels for much of water year 1990. The hydrograph for observation well ZK-58-19-910, located on the south bank of the San Gabriel River east of Georgetown (fig. 1), shows little overall change from one year to the next but shows some short-term fluctuations. Observation well ZK-58-20-409, located on the north bank of Berry Creek at State Highway 971 (fig. 1), shows about a 30-ft decline in water levels during the spring and summer of 1990.

The regional potentiometric surface of the Edwards aquifer for the winter of 1990 is shown in figure 4. The water levels show a general gradient from west to east as discussed in previous reports (Baker and others, 1986, and Land and Dorsey, 1988). In Georgetown, a substantial amount of the ground water flows from San Gabriel Springs (fig. 1) and is pumped by municipal supply wells. The water-level contours indicate depressions in the vicinity of supply wells located northeast of Round Rock, which is in the southeast part of the study area.

The regional change in ground-water levels between the winters of 1988 and 1990 is shown in figure 5. Moderate declines (5 to 20 ft) in water levels were common in a southwest-northeast band that centers on Georgetown. Severe declines (more than 20 ft) occurred in the eastern and southeastern parts of the study area. The largest decline was northeast of Round Rock (more than 50 ft at well 603, fig. 1).

REFERENCES CITED

Baker, E.T., Jr., Slade, R.M., Jr., Dorsey, M.E., Ruiz, L.M., and Duffin, G.L., 1986, Geohydrology of the Edwards aquifer in the Austin area, Texas: Texas Water Development Board Report 293, 217 p.
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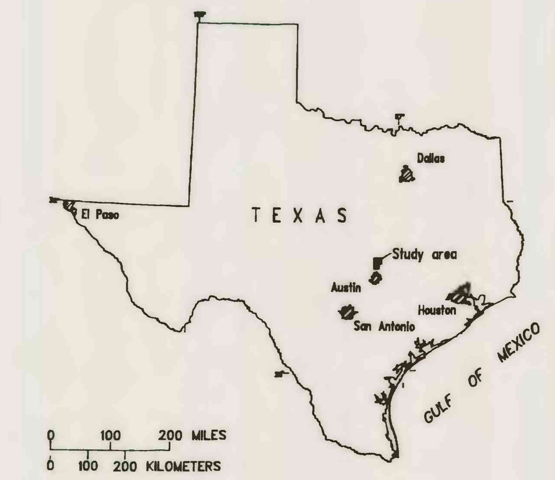
Land, L.F., and Dorsey, M.E., 1988, Reassessment of the Georgetown Limestone as a hydrogeologic unit of the Edwards aquifer, Georgetown area, Texas: U.S. Geological Survey Water-Resources Investigations Report 88-4190, 49 p.
----- 1989, Summary of hydrologic data for the San Gabriel River basin and Edwards aquifer, Georgetown area, Texas, water year 1988: U.S. Geological Survey Open-File 89-226, 1 sheet.
Senger, R.K., Collins, E.W., and Kreitler, C.W., 1990, Hydrogeology of the northern segment of the Edwards aquifer, Austin region: Bureau of Economic Geology, University of Texas at Austin, Report of Investigations No. 192, 58 p.

CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
cubic foot per second (ft^3/s)	0.02832	cubic meter per second
foot (ft)	0.3048	meter
inch (in.)	25.40	millimeter
mile (mi)	1.609	kilometer
square mile (mi^2)	2.590	square kilometer
	Temperature	
degree Celsius (°C)	1.8 x °C + 32	degree Fahrenheit

Sea level: In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.



LOCATION MAP

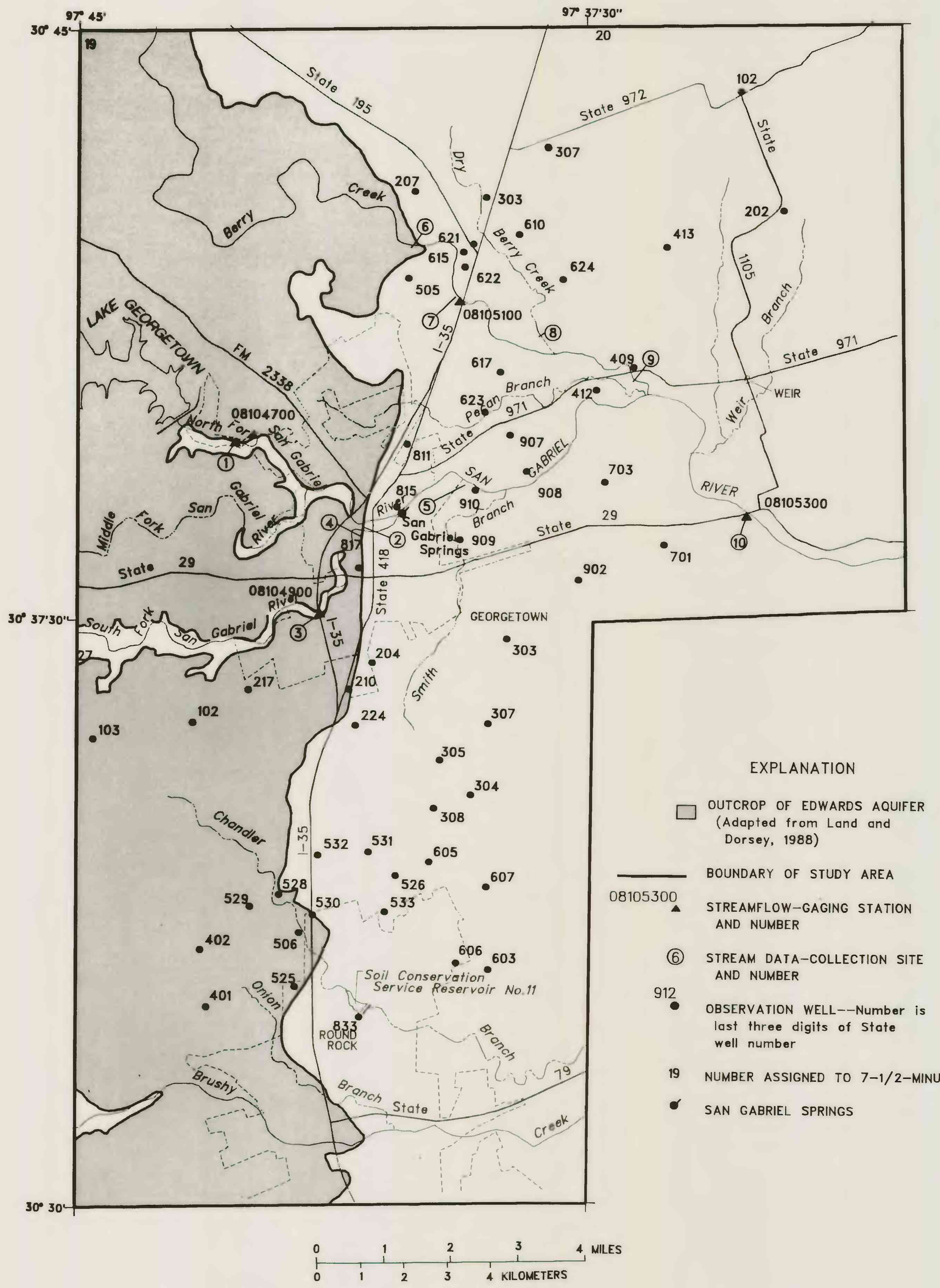


Figure 1.--Map showing location of the study area and data-collection sites.

SURFACE WATER

Table 1.--Hydrologic data for selected stream data-collection sites

(ft³/s, cubic feet per second; µS/cm, microsiemens per centimeter at 25 degrees Celsius; °C, degrees Celsius; ft, feet; mi, miles; --, missing data; I, Interstate Highway; SH, State Highway; MK RR, Missouri Kansas Railroad)

Site	Stream	Location	Date	Discharge (ft³/s)	Specific conductance (µS/cm)	pH (standard units)	Water temperature (°C)
Revised locations:							
1	North Fork San Gabriel River	Lat 30°39'42", long 97°42'40", at streamflow station 08104700, 5,000 ft downstream from Lake Georgetown, 3.4 mi upstream from mouth	2-17-87	a/28.1	428	7.6	12.5
			5-06-87	a/29.8	404	7.7	23.0
			2-23-88	8.04	449	7.0	12.0
			8-12-88	5.50	346	8.2	31.0
			11-20-89	a/3.72	--	--	--
			1-08-90	a/4.18	369	--	6.5
			2-26-90	a/4.40	--	--	--
			4-16-90	a/4.18	--	--	--
			6-06-90	a/6.04	--	--	--
			7-31-90	a/4.18	--	--	--
			9-13-90	a/3.97	363	8.0	25.0
2	North Fork San Gabriel River	Lat 30°38'44", long 97°40'49", at partial-record streamflow station 08104795, 0.2 mi upstream from mouth	2-17-87	39.3	450	7.8	11.5
			5-06-87	37.8	423	7.3	22.5
			2-23-88	12.2	502	7.0	16.0
			8-12-88	5.83	347	8.4	29.0
			11-20-89	5.01	--	--	16.5
			1-08-90	4.51	409	--	7.5
			2-26-90	4.57	--	--	13.5
			4-16-90	5.52	--	--	19.0
			6-06-90	6.84	--	--	27.0
			7-31-90	3.39	--	--	27.0
			9-13-90	4.45	386	7.8	25.0
3	South Fork San Gabriel River	Lat 30°37'32", long 97°41'27", at streamflow station 08104900, at the downstream side of I-35 bridge, 2.4 mi upstream from mouth	2-17-87	a/47.2	--	--	--
			5-06-87	2.36	412	7.9	24.5
			2-23-88	a/7.85	443	8.0	11.0
			8-12-88	a/.44	413	7.7	28.0
			11-20-89	a/.44	--	--	--
			1-08-90	a/1.52	538	--	5.0
			2-26-90	a/.27	--	--	--
			4-16-90	a/4.42	--	--	--
			6-06-90	a/7.36	--	--	--
			7-31-90	a/.41	--	--	--
			9-13-90	a/.17	446	7.1	24.0
4	South Fork San Gabriel River	Lat 30°38'38", long 97°40'50", at partial-record streamflow station 08104950, 0.2 mi upstream from SH 418, 0.6 mi upstream from mouth	2-17-87	51.5	464	7.5	12.0
			5-06-87	21.6	420	7.9	24.0
			2-23-88	8.88	467	7.0	17.0
			8-12-88	.11	341	8.0	30.0
			11-20-89	.28	--	--	16.5
			1-08-90	.38	496	--	8.5
			2-26-90	.60	--	--	14.5
			4-16-90	5.66	--	--	20.5
			6-06-90	9.86	--	--	28.5
			7-31-90	.51	--	--	29.0
			9-13-90	.05	402	6.9	25.5
5	San Gabriel River	Lat 30°39'14", long 97°39'18", at partial-record streamflow station 08105000, 100 ft downstream from MK RR bridge, 1.2 mi downstream from confluence of North Fork San Gabriel River and South Fork San Gabriel River	2-17-87	a/105	--	--	--
			5-06-87	a/72.9	483	7.6	21.5
			2-23-88	37.9	627	6.9	19.5
			8-12-88	17.2	523	7.4	27.0
			11-20-89	8.65	--	--	17.5
			1-08-90	11.1	607	--	13.0
			2-26-90	13.1	--	--	15.5
			4-16-90	23.4	--	--	20.5
			6-06-90	31.4	--	--	26.5
			7-31-90	8.04	--	--	28.5
			9-13-90	13.2	566	7.9	26.5
6	Berry Creek	Lat 30°42'11", long 97°39'59", at partial-record streamflow station 08105095, 1.4 mi upstream from I-35, 5.0 mi upstream from mouth	2-17-87	15.0	487	7.7	13.5
			5-06-87	2.45	478	7.1	22.0
			2-23-88	.32	442	7.9	14.0
			8-12-88	.00	--	--	--
			11-20-89	.00	--	--	--
			1-08-90	.00	--	--	--
			2-26-90	.00	--	--	--
			4-16-90	.00	--	--	--
			6-06-90	.00	--	--	--
			7-31-90	.00	--	--	--
			9-13-90	.00	--	--	--
7	Berry Creek	Lat 30°41'28", long 97°39'21", at streamflow station 08105100, on the upstream service road of I-35, 3.6 mi upstream from mouth	2-17-87	a/28.7	543	6.8	15.0
			5-06-87	a/13.4	564	7.1	20.0
			2-23-88	5.28	556	7.5	17.4
			8-12-88	.00	--	--	--
			11-20-89	.00	--	--	--
			1-08-90	.00	--	--	--
			2-26-90	.00	--	--	--
			4-16-90	.55	--	--	19.5
			6-06-90	1.88	--	--	27.0
			7-31-90	.00	--	--	--
			9-13-90	.00	--	--	--
8	Dry Berry Creek	Lat 30°40'52", long 97°38'24", at partial-record streamflow station 08105160, at county road, 0.4 mi upstream from mouth, 4.0 mi northeast of Georgetown	2-17-87	1.57	497	7.8	11.0
			5-06-87	.54	535	7.4	22.0
			2-23-88	.88	455	7.8	15.5
			8-12-88	.02	470	6.6	28.0
			11-20-89	.00	--	--	--
			1-08-90	.00	--	--	--
			2-26-90	.00	--	--	--
			4-16-90	.39	--	--	19.0
			6-06-90	.09	--	--	28.0
			7-31-90	.00	--	--	--
			9-13-90	.00	--	--	--
9	Berry Creek	Lat 30°40'33", long 97°36'51", at partial-record streamflow station 08105200, at bridge on SH 971, 0.5 mi upstream from mouth, 4.7 mi northeast of Georgetown	2-17-87	41.8	531	7.2	15.0
			5-06-87	23.0	558	7.4	21.0
			2-23-88	14.0	528	7.9	17.0
			8-12-88	2.57	470	7.4	28.5
			11-20-89	.00	--	--	--
			1-08-90	1.06	579	--	11.5
			2-26-90	.53	--	--	16.5
			4-16-90	2.66	--	--	20.5
			6-06-90	11.8	--	--	28.0
			7-31-90	.52	--	--	29.5
			9-13-90	.00	--	--	--
10	San Gabriel River	Lat 30°38'45", long 97°35'06", at streamflow station 08105300, at downstream side of SH 29, 0.5 mi upstream from Monske Branch, 4.7 mi east of Georgetown	2-17-87	a/155	504	7.0	14.0
			5-06-87	a/98.6	519	7.8	23.0
			2-23-88	56.2	609	7.4	17.5
			8-12-88	a/14.6	469	8.2	28.0
			11-20-89	a/13.3	--	--	--
			1-08-90	a/12.7	596	--	10.0
			2-26-90	a/12.6	--	--	--
			4-16-90	a/27.3	--	--	--
			6-06-90	a/36.0	--	--	--
			7-31-90	a/13.3	--	--	--
			9-13-90	a/17.2	526	7.4	10.0

a/ Discharge from rating table.

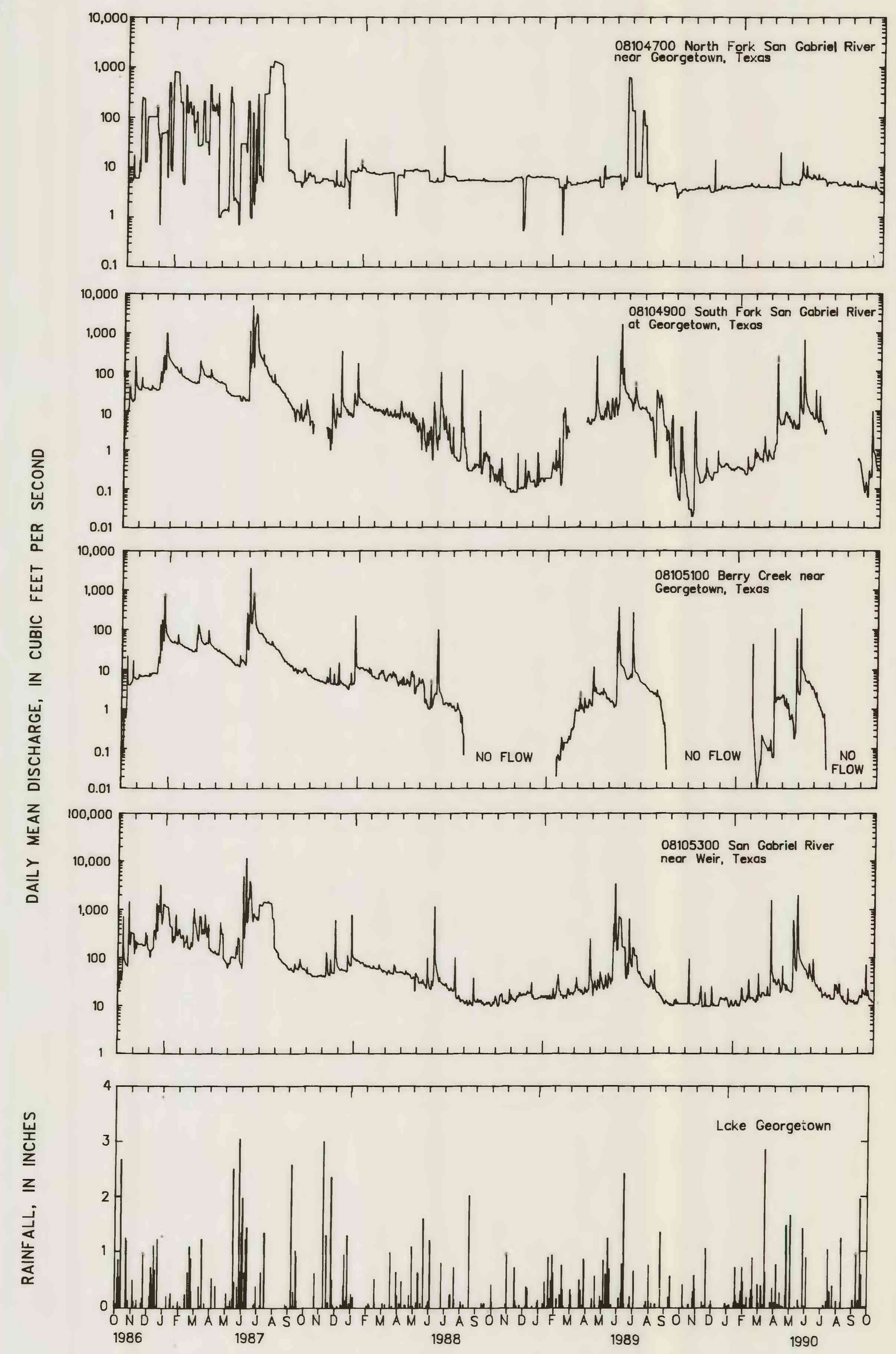


Figure 2.--Hydrographs showing discharge at streamflow-gaging stations and daily rainfall at Lake Georgetown.

GROUND WATER

Table 2.--Hydrologic data for selected observation wells

(ft, feet; µS/cm, microsiemens per centimeter at 25 degrees Celsius; °C, degrees Celsius; --, missing data; est., estimated)

Well	Depth of well (ft)	Altitude of land surface (ft)	Water level: Date of measurement	Water level: Above (+) or below land surface (ft)	Specific conductance (µS/cm)	pH (standard units)	Water temperature (°C)
ZK-58-19-207	108	750	2-17-87	61.0	622	6.8	19.0
			5-04-87	65.10	560	6.8	21.5
			2-23-88	70.45	572	7.5	20.5
			8-12-88	77.52	601	6.9	21.0
			1-08-90	80.86	547	6.9	--
			9-13-90	82.80	551	7.4	23.0
ZK-58-19-303	175	730	2-17-87	39.07	492	7.0	22.0
			5-08-87	41.11	530	7.2	22.0
			2-23-88	43.21	531	7.0	21.5
			8-12-88	52.54	546	7.1	--
			1-08-90	54.59	498	6.8	19.0
			9-13-90	57.17	549	7.4	22.5
ZK-58-19-307	165	780	2-17-87	128.54	--	--	--
			5-08-87	138.61	--	--	--
			2-23-88	129.32	--	--	--
			8-12-88	150.88	--	--	--
			1-08-90	145.95	--	--	--
			9-13-90	149.10	--	--	--
ZK-58-19-505	90	720	2-17-87	46.0	--	--	--
			5-08-87	45.51	--	--	--
			2-23-88	51.99	--	--	--
			8-12-88	55.56	--	--	--
			1-08-90	57.19	--	--	--
			9-13-90	57.26	--	--	--
ZK-58-19-610	270	740	2-17-87	66.44	521	7.0	21.0
			5-08-87	69.36	542	7.3	22.0
			2-23-88	70.63	529	7.3	21.5
			8-12-88	82.48	519	7.1	22.0
			1-08-90	80.52	517	7.1	21.5
			9-13-90	86.86	552	7.3	23.0
ZK-58-19-615	207	715	2-17-87	28.65	--	--	--
			5-08-87	31.92	--	--	--
			2-23-88	33.47	--	--	--
			8-12-88	41.79	--	--	--
			1-08-90	45.22	--	--	--
			9-13-90	46.87	--	--	--
ZK-58-19-617	270	712	2-17-87	36.68	--	--	--
			5-08-87	38.42	--	--	--
			2-23-88	42.00	--	--	--
			8-12-88	49.28	--	--	--
			1-08-90	51.63	--	--	--
			9-13-90	54.18	--	--	--
ZK-58-19-621	147	708	2-17-87	26.7	653	6.9	21.5
			5-04-87	27.3	596	6.9	21.5
			2-23-88	29.6	592	7.4	21.5
			8-12-88	38.4	612	7.2	22.0
			1-08-90	41.09	562	6.7	21.0
			9-13-90	43.28	607	7.4	22.0
ZK-58-19-622	200	707	2-17-87	29.5	--	--	--
			5-08-87	31.16	--	--	--
			2-23-88	33.94	--	--	--
			8-12-88	42.03	--	--	--
			1-08-90	44.58	--	--	--
			9-13-90	47.54	--	--	--
ZK-58-19-623	--	688	2-13-87	14.2	--	--	--
			5-04-87	15.94	--	--	--
			2-24-88	17.36	--	--	--
			8-12-88	25.8	--	--	--
			1-08-90	30.00	--	--	--
			9-13-90	30.80	--	--	--
ZK-58-19-624	240	715	2-17-87	50.35	536	7.1	21.0
			5-08-87	54.84	560	7.3	21.5
			2-23-88	56.73	555	7.2	20.0
			8-12-88	71.40	530	7.2	23.0
			1-08-90	72.07	516	7.1	21.5
			9-13-90	85.05	561	7.6	22.0
ZK-58-19-811	185	710	2-17-87	46.09	619	7.1	22.0
			5-08-87	61.44	644	7.0	21.5
			2-23-88	65.48	613	7.1	21.5
			8-12-88	67.43	617	7.2	21.5
			1-08-90	pumping	587	7.0	22.0
			9-13-90	69.80	705	7.2	22.0
ZK-58-19-815	205	668	2-17-87	17.07	--	--	--
			5-08-87	16.67	--	--	--
			2-23-88	18.37	--	--	--
			8-12-88	19.09	--	--	--
			1-08-90	22.43	--	--	--
			9-13-90	19.92	--	--	--
ZK-58-19-817	219	745	2-17-87	77.26	--	--	--
			5-08-87	72.21	--	--	--
			2-23-88	77.22	--	--	--
			8-12-88	77.58	--	--	--
			1-08-90	83.39	--	--	--
			9-13-90	88.32	--	--	--
ZK-58-19-902	300	708	2-17-87	95.23	665	6.9	20.5
			5-08-87	108.87	681	7.2	23.5
			2-23-88	103.17	665	7.0	21.5
			8-12-88	129.65	605	7.3	25.0
			1-08-90	126.81	596	7.2	21.0
			9-13-90	149.22	677	7.4	23.5
ZK-58-19-907	200	685	2-17-87	21.76	749	7.3	21.0
			5-08-87	25.17	780	7.3	20.5
			2-23-88	27.27	834	7.1	20.5
			8-12-88	41.42	675	7.3	21.5
			1-08-90	41.22	615	7.5	20.0
			9-13-90	46.12	745	7.7	23.0
ZK-58-19-908	--	660	2-17-87	20.63	--	--	--
			5-08-87	28.21	--	--	--
			2-23-88	27.32	--	--	--
			8-12-88	47.37	--	--	--
			1-08-90	31.61	--	--	--
			9-13-90	34.68	--	--	--
ZK-58-19-909	--	710	2-17-87	48.95	--	--	--
			5-08-87	54.28	--	--	--
			2-23-88	54.44	--	--	--
			8-12-88	64.99	--	--	--
			1-08-90	65.94	--	--	--
			9-13-90	68.07	--	--	--
ZK-58-19-910	165	695	2-17-87	29.7	--	--	--
			5-05-87	32.68	--	--	--
			2-24-88	30.08	--	--	--
			8-11-88	36.47	--	--	--
			1-08-90	36.60	--	--	--
			9-13-90	41.94	--	--	--
ZK-58-20-102	603	855	2-17-87	234.1	--	--	--
			5-04-87	241.5	--	--	--
			2-23-88	239.25	--	--	--
			8-12-88	pumping	653	7.3	26.0
			1-08-90	232.48	--	--	--
			9-13-90	275.10	--	--	--
ZK-58-20-202	580	825	2-17-87	206.25	--	--	--
			5-04-87	211.1	--	--	--
			2-23-88	211.4	--	--	--
			8-12-88	229.78	--	--	--
			1-12-90	231.00	--	--	--
			9-13-90	245.22	--	--	--
ZK-58-20-409	200	636	2-17-87	+1.2	--	--	--
			5-05-87	6.9	--	--	--
			2-24-88	3.84	--	--	--
			8-11-88	26.70	--	--	--
			1-08-90	20.26	--	--	--
			9-13-90	37.39	--	--	--
ZK-58-20-412	--	652	2-17-87	19.85	828	7.4	21.5
			--	--	--	--	--
			2-23-88	20.9	765	7.4	21.5
			8-12-88	41.5	688	7.0	21.5
			1-08-90	34.26	698	7.1	20.5
			9-13-90	52.76	635	7.0	21.0
ZK-58-20-413	360	755	2-17-87	107.35	600	7.0	23.0
			5-04-87	117.0	548	7.2	24.0
			2-23-88	111.72	540	7.7	24.0
			8-12-88	136.78	556	7.4	24.0
			1-08-90	129.06	613	7.3	18.0
			9-13-90	147.01	552	7.5	24.0
ZK-58-20-701	--	705	2-18-87	71.5	--	--	--
			5-04-87	79.2	797	7.3	23.5
			2-23-88	77.90	775	7.7	23.5
			8-12-88	102.25	809	7.4	24.5
			1-08-90	103.10	889	7.5	24.0
			9-13-90	118.45	797	7.4	25.0
ZK-58-20-703	311	700	2-18-87	77.5	741	6.9	21.5
			5-04-87	84.2	723	7.4	23.5
			2-23-88	81.4	715	7.5	23.0
			8-12-88	108.55	730	7.4	24.0
			1-08-90	100.33	802	7.5	21.0
			9-13-90	120.41	802	7.4	24.0
ZK-58-27-102	105	905	2-18-87	78.8	--	--	--
			5-05-87	79.1	--	--	--
			2-24-88	79.27	--	--	--
			8-12-88	79.40	--	--	--
			1-08-90	79.58	--	--	--
			9-13-90	79.75	--	--	--
ZK-58-27-103	108	940	2-18-87	68.7	--	--	--
			5-05-87	68.6	--	--	--
			2-24-88	68.31	--	--	--
			8-12-88	69.49	--	--	--
			1-08-90	69.90	--	--	--
			9-13-90	69.30	--	--	--
ZK-58-27-204	130	761	2-18-87	73.7	--	--	--
			5-04-87	76.9	--	--	--
			2-23-88	84.6	--	--	--
			8-12-88	94.1	--	--	--
			1-08-90	97.0	--	--	--
			9-13-90	98.20	--	--	--
ZK-58-27-210	165	773	2-20-87	83.3	--	--	--
			5-04-87	87.07	--	--	--
			2-23-88	92.82	--	--	--
			8-12-88	103.4	--	--	--
			1-08-90	106.42	--	--	--
			9-13-90	105.50	--	--	--
ZK-58-27-217	121	855	2-18-87	82.3	--	--	--
			5-05-87	82.2	--	--	--
			2-24-88	82.39	--	--	--
			8-12-88	82.55	--	--	--
			1-08-90	82.69	--	--	--
			9-13-90	82.60	--	--	--
ZK-58-27-224	160	805	2-18-87	104.5	--	--	--
			5-04-87	107.9	--	--	--
			2-23-88	118.0	--	--	--
			8-12-88	131.87	--	--	--
			1-08-90	135.72	--	--	--
			9-13-90	135.12	--	--	--
ZK-58-27-303	306	805	2-17-87	158.3	631	7.0	20.5
			5-04-87	179.7	610	--	23.0
			2-23-88	164.9	618	7.2	21.5
			8-11-88	198.14	631	7.1	25.0
			1-12-90	187.80	553	6.9	21.0
			9-13-90	198.10	626	7.0	24.0
ZK-58-27-304	340	840	2-18-87	163.9	615	6.9	19.5
			5-04-87	180.9	604	7.1	23.0
			2-23-88	172.8	609	7.2	22.5
			8-11-88	201.88	622	7.1	25.0
			1-08-90	200.72	630	6.9	24.0
			9-13-90	207.28	614	6.9	24.5
ZK-58-27-305	314	840	2-17-87	147.3	--	--	--
			5-04-87	154.2	--	--	--
			8-11-88	181.69	--	--	--
			1-08-90	184.00	--	--	--
			9-13-90	185.45	--	--	--
ZK-58-27-307	360	832	2-18-87	177.8	--	--	--
			5-04-87	196.75	--	--	--
			2-23-88	185.3	--	--	--
			8-12-88	207.7	--	--	--
			1-08-90	202.58	--	--	--
ZK-58-27-308	300 est.	880	2-17-87	195.2	--	--	--
			5-04-87	202.8	--	--	--
			2-23-88	201.9	--	--	--
			9-14-90	228.7	--	--	--
ZK-58-27-401	430	788	2-18-87	30.05	--	--	--
			5-04-87	30.0	--	--	--
			2-23-88	30.7	--	--	--
			8-12-88	31.6	--	--	--
			1-12-90	33.5	--	--	--
			9-14-90	32.56	--	--	--
ZK-58-27-402	--	846	2-18-87	116.7	--	--	--
			5-05-87	113.6	--	--	--
			2-24-88	109.46	--	--	--
			8-11-88	115.77	--	--	--
			1-12-90	130.90	--	--	--
			9-14-90	136.00	--	--	--
ZK-58-27-506	345	750	2-18-87	38.7	--	--	--
			5-04-87	39.55	--	--	--
			2-23-88	45.6	--	--	--
			8-11-88	53.68	--	--	--
			1-12-90	57.3	--	--	--
			9-14-90	62.6	--	--	--
ZK-58-27-525	350	758	2-18-87	62.75	638	6.6	22.5
			5-04-87	62.85	654	7.2	22.5
			2-23-88	71.53	644	7.4	22.0
			8-12-88	90.2	656	7.2	22.5
			1-12-90	96.53	601	6.9	20.0
			9-14-90	94.60	--	--	--
ZK-58-27-526	304	873	2-18-87	162.4	842	7.0	21.0
			5-05-87	163.9	828	7.2	23.0
			2-23-88	175.0	825	7.1	20.0
			8-11-88	198.70	850	7.1	25.5
			9-14-90	199.9	--	--	--
ZK-58-27-528	--	772	2-18-87	54.85	--	--	--
			5-05-87	56.0	--	--	--
			2-24-88	65.08	--	--	--
			8-11-88	72.9	--	--	--
			1-12-90	66.6	--	--	--
			9-14-90	75.59	--	--	--
ZK-58-27-529	--	821	2-18-87	73.1	--	--	--
			5-05-87	74.4	--	--	--
			2-24-88	75.54	--	--	--
			8-11-88	76.44	--	--	--
			1-12-90	77.06	--	--	--
			9-14-90	76.27	--	--	--
ZK-58-27-530	200	757	2-17-87	52.3	--	--	--
			5-04-87	54.1	--	--	--
			2-23-88	62.6	--	--	--
			8-12-88	76.54	--	--	--
			9-14-90	78.0	--	--	--
ZK-58-27-531	--	842	2-18-87	133.4	565	7.0	19.5
			5-04-87	140.3	545	7.2	21.5
			2-23-88	148.2	579	7.2	20.5
			8-11-88	168.88	582	7.3	23.0
			1-08-90	170.04	--	--	--
			9-13-90	169.92	557	7.1	25.0
ZK-58-27-532	--	829	2-17-87	106.4	--	--	--
			5-04-87	109.5	--	--	--
			2-23-88	118.8	--	--	--
			8-12-88	130.05	--	--	--
			1-08-90	133.95	--	--	--
			9-13-90	131.70	--	--	--
ZK-58-27-533	280	815	2-18-87	117.3	1,210	6.9	21.5
			5-05-87	119.1	1,225	7.2	22.5
			2-23-88	131.2	1,230	7.2	22.5
			8-11-88	154.70	1,280	7.0	23.0
			1-12-90	157.20	1,100	6.8	21.5
			9-13-90	156.95	1,240	6.9	23.0
ZK-58-27-603	380	733	2-17-87	106.1	746	6.9	21.0
			5-04-87	110.7	716	7.2	23.0
			2-23-88	108.9	713	7.0	21.0
			8-11-88	164.34	722	7.2	24.5
			1-08-90	169.06	725	7.1	24.0
			9-13-90	177.24	713	7.0	24.5
ZK-58-27-605	303	825	2-17-87	154.1	628	7.2	14.5
			5-04-87	162.6	615	7.1	23.0
			2-23-88	166.7	622	7.1	22.0
			8-11-88	191.26	640	7.1	23.5
			9-14-90	198.10	--	--	--
ZK-58-27-606	--	750	2-17-87	77.5	800	6.8	18.0
			5-04-87	84.1	773	7.0	21.5
			2-23-88	88.0	778	7.0	19.0
			8-11-88	117.44	--	--	--
			1-08-90	122.27	--	--	--
			9-13-90	128.02	--	--	--
ZK-58-27-607	300	795	2-17-87	121.9	944	6.9	20.0
			--	--	--	--	--
			2-23-88	130.9	914	7.1	22.0
			8-11-88	158.94	932	7.2	24.0
			1-08-90	166.20	926	7.1	23.0
			9-13-90	168.89	925	7.0	23.5
ZK-58-27-833	115	725	2-18-87	12.3	--	--	--
			5-05-87	14.95	--	--	--
			2-24-88	26.55	--	--	--
			8-11-88	50.75	--	--	--
			1-08-90	52.45	--	--	--
			9-13-90	52.60	--	--	--

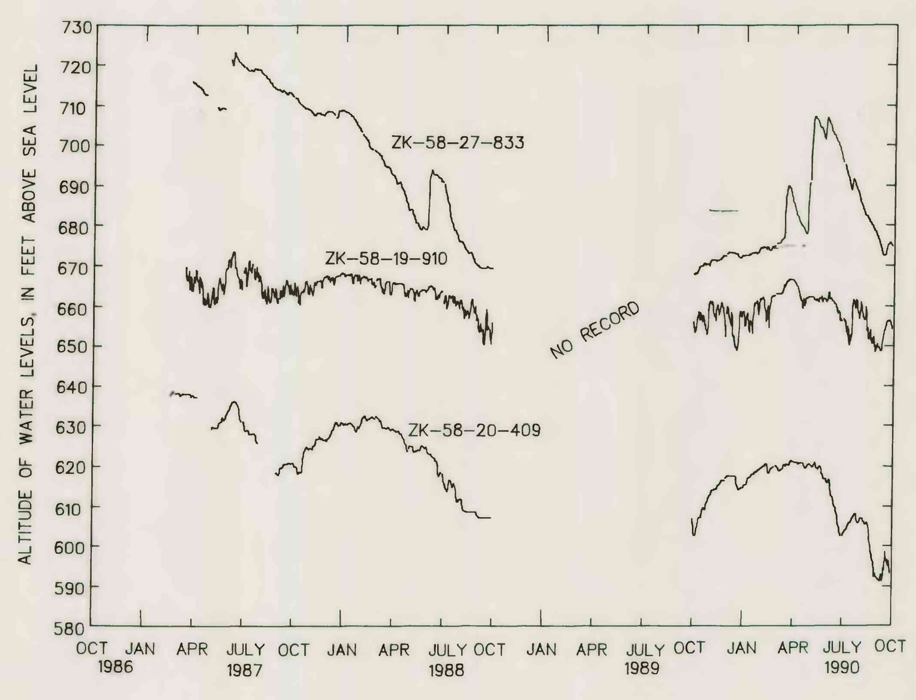


Figure 3.--Hydrographs showing water levels at observation wells.

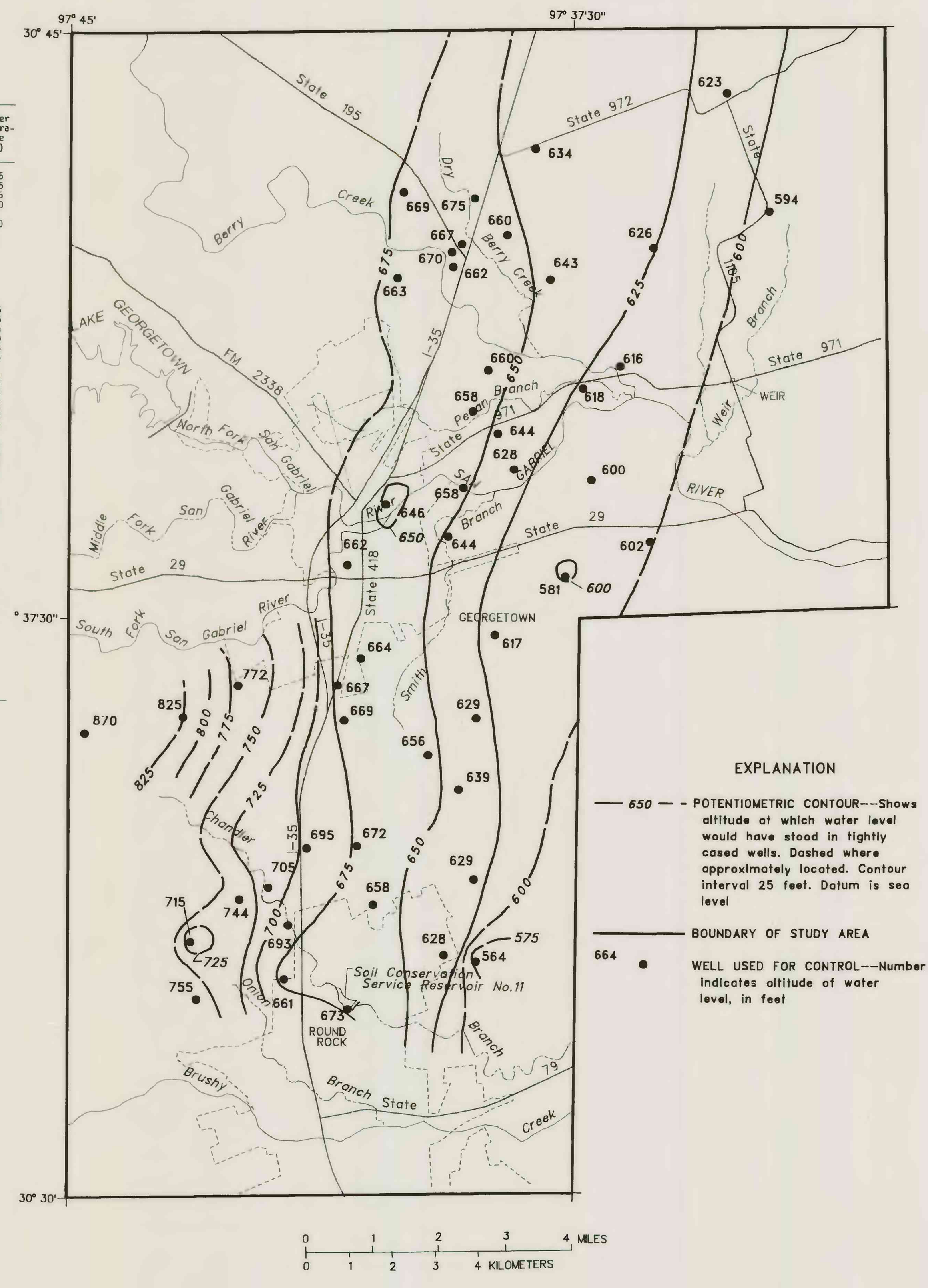


Figure 4.--Map showing potentiometric surface of the Edwards aquifer during winter 1990.

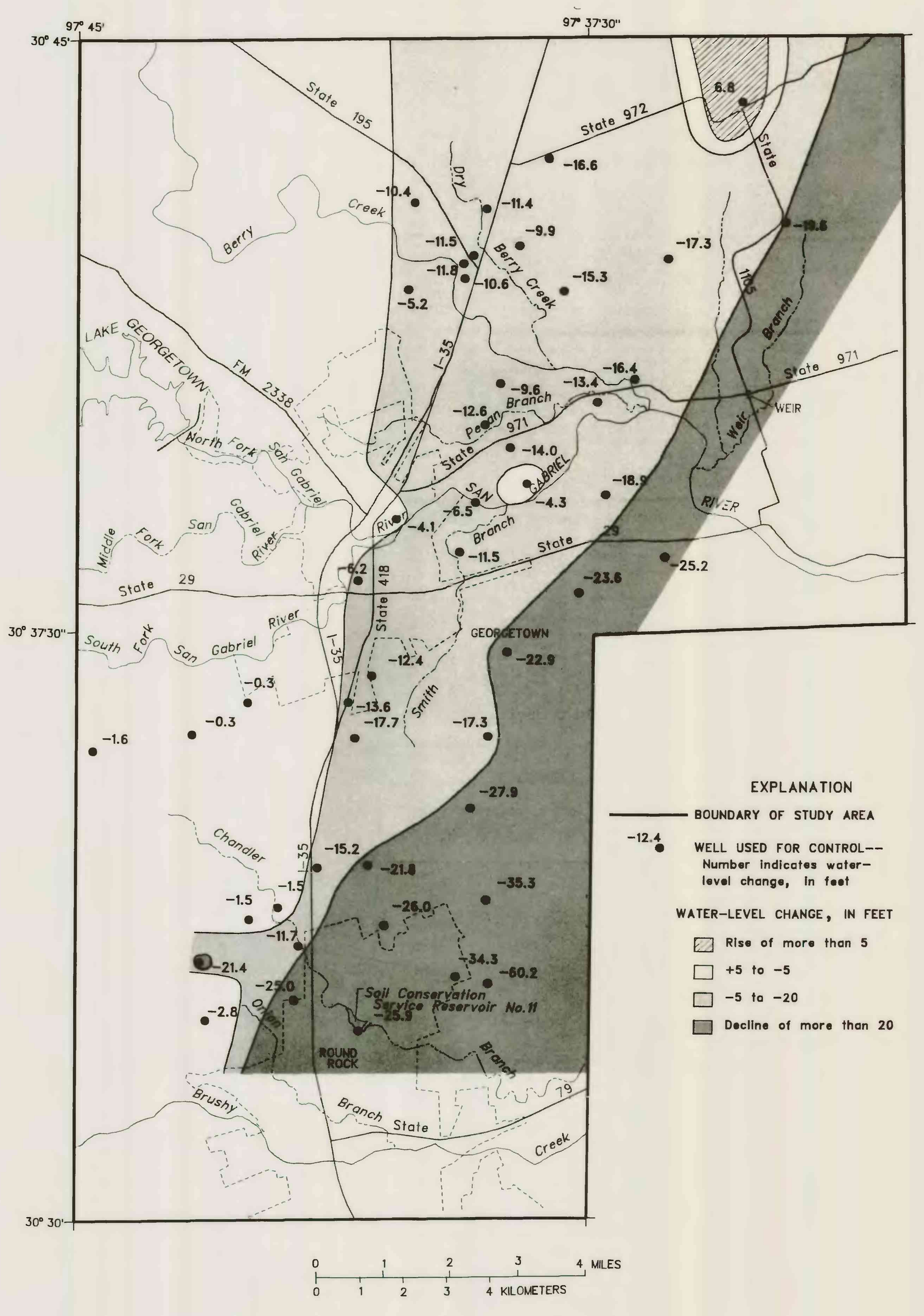


Figure 5.--Map showing water-level changes between the winters of 1988 and 1990.

SUMMARY OF HYDROLOGIC DATA FOR THE SAN GABRIEL RIVER BASIN AND EDWARDS AQUIFER, GEORGETOWN AREA, TEXAS, WATER YEAR 1990

By

W.E. REEVES AND L.F. LAND

1992