TEXAS BOARD OF WATER ENGINEERS

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BULLETIN 5710

GROUND-WATER GEOLOGY OF WILSON COUNTY, TEXAS

Prepared in cooperation with the Geological Survey,
United States Department of the Interior
and the
San Antonio River Authority

July 1957

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Texas Water Development Board

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GROUND-WATER GEOLOGY OF WILSON COUNTY, TEXAS

By

R. B. Anders, Geologist
United States Geological Survey

ABSTRACT

Wilson County, the center of which is about 30 miles southeast of the city of San Antonio in south-central Texas, has an area of 802 square miles and had a population of 14,672 in 1950. The economy of the county is dependent primarily upon farming and ranching.

The county is underlain by a thick series of strata of sand, silt, and clay which range in age from Eocene to Recent and which dip southeast toward the coast at a rate of approximately 150 feet per mile. The principal water-bearing strata in order of importance are the Carrizo sand, the Queen City sand member of the Mount Selman formation, the Wilcox group, the Sparta sand, the Yegua formation, and the Jackson group. The Carrizo, the Queen City, the Wilcox, and the Sparta yield water of fair to good quality, generally in relatively large amounts. In most places the water in the Yegua formation and the Jackson group is rather highly mineralized. Large quantities of ground water suitable for irrigation or public supply are available for development from the Carrizo sand, the Queen City sand member, and the Wilcox group.

It is estimated that the Carrizo sand within the county contains 80 million acre-feet of water, of which an estimated 4 million acre-feet could be withdrawn from storage without an excessive decline in water levels. The present discharge from wells in the Carrizo averages about 3 million gallons per day; some of this water is wasted from uncontrolled flowing wells. The results of aquifer tests indicate that the Carrizo has coefficients of transmissibility ranging from 29,000 to 150,000 gallons per day per foot and a coefficient of storage of about 1.9×10^{-4}. Yields of large-diameter wells generally range from 75 to 600 gallons per minute, but wells have been reported to yield as much as 1,600 gallons per minute from the Carrizo sand.

INTRODUCTION

PURPOSE AND SCOPE OF INVESTIGATION

The ground-water investigation of Wilson County was made as part of a cooperative program of the San Antonio River Authority, the Texas Board of Water Engineers, and the United States Geological Survey. The purpose of the investigation was to determine the thickness and areal extent of and depth to the fresh-water-bearing formations, and to ascertain the hydrologic relationship between the formations and flow in the San Antonio River and Cibolo Creek.

The field work was done in the fall of 1954 and the winter and spring of 1955. The report contains data for 342 wells and 7 springs (table 6). Drillers' logs of 23 of the wells are included also (table 7). Seventy-four samples of water were analyzed by the U. S. Geological Survey, and the remaining 141 chemical analyses were made by personnel of the Works Progress Administration under the supervision of the Bureau of Industrial Chemistry of the University of Texas (table 8). The surface geology was studied and a geologic map and cross sections were prepared. Three aquifer tests were made to determine the water-yielding properties of the Carrizo sand.

The investigation was made under the immediate supervision of R. W. Sundstrom, district engineer of the U. S. Geological Survey in charge of ground-water investigations in Texas, and under the administrative direction of A. N. Sayre, chief of the Ground Water Branch of the Geological Survey.

LOCATION AND PHYSICAL FEATURES

Wilson County is in south-central Texas; its northwest boundary is about 15 miles southeast of the city of San Antonio. It is bounded on the north by Guadalupe County, on the northeast by Gonzales County, on the southeast by Karnes County, on the southwest by Atascosa County, and on the northwest by Bexar County (fig. 1).

The land surface ranges from flat to gently rolling, the greatest relief generally being in the northwestern two-thirds of the county. The altitude of the land surface ranges from approximately 790 feet on a hill about 8 miles west-southwest of Lavernia to about 290 feet in the southeastern part of the county where the San Antonio River crosses the Wilson-Karnes County line.

The county is drained principally by the San Antonio River and a tributary, Cibolo Creek. The southwestern part of the county is drained by tributaries of the Atascosa River and the northeastern part by tributaries of the Guadalupe River.

Wilson County has an area of 802 square miles and had a population of 14,672 in 1950, according to the United States Census. Floresville, the county seat, had a population of 1,949 in 1950 and is a shipping point for local farm products. Other communities in the county include Stockdale with a population of 1,105, Poth with a population of 1,089, Lavernia with a population of 500, and Saspamco with a population of 350.

FIGURE 1.- Map of Texas showing location of Wilson County.

ECONOMIC DEVELOPMENT

The economy of Wilson County depends largely upon farming and livestock production. The principal farm crops are peanuts and flax; however, cotton, watermelons, corn, and grain sorghum also are extensively grown. Cattle raising, stock farming, dairying, and poultry raising are practiced extensively, especially in areas where the soil is poor. The town of Saspamco is the site of a large clay-products plant. After the discovery of oil in 1941, the production of crude oil rose steadily to a reported peak of 402,993 barrels in 1954.

PREVIOUS INVESTIGATIONS

A report by Marek (1936) contains records of 366 wells and springs in the county, a map showing their location, drillers' logs of some of the wells, and the results of 343 chemical analyses of water. Table 9 shows the numbers of the wells and springs used in the report by Marek and the corresponding numbers used in the present report. Although no detailed reports on the geology of the entire county have been published, several regional reports (Deussen, 1924; Sellards, Adkins, and Plummer, 1932) contain descriptions of geologic sections at several locations in the county. The public water supplies of four towns in the county were briefly described by Broadhurst, Sundstrom, and Rowley (1950, p, 6, 7; 108-110).

ACKNOWLEDGMENTS

The author is indebted to officials of the towns of Floresville, Nixon, Stockdale, and Poth, and to the farmers and ranchers in the county who have supplied information about, as well as given access to, their wells. Well drillers George Guenther of Poth, Tom Moy of Kosciusko, and A. R. Thierry of Nixon have been particularly helpful in furnishing well logs and other information. Considerable help was received from personnel of the Stanolind Oil and Gas Co., Magnolia Petroleum Co., and Southern Minerals Corp.

CLIMATE

The average annual precipitation at Floresville for the period of record from 1916 to 1955 was 26.80 inches (table 1). During that period the annual precipitation ranged from a low of 7.88 inches in 1917 to a high of 46.32 inches in 1919 (fig. 2). May and June are the wettest months, but the range in average monthly precipitation is only slightly more than 1.5 inches (fig. 2).

Records of temperature are not kept at Floresville, but figure 2 gives average monthly temperatures at San Antonio, which is about 28 miles northwest of Floresville. The highest and lowest temperatures recorded at San Antonio during the 70-year period from 1884 to 1955 were 107°F in August 1909 and 0°F in January 1949.

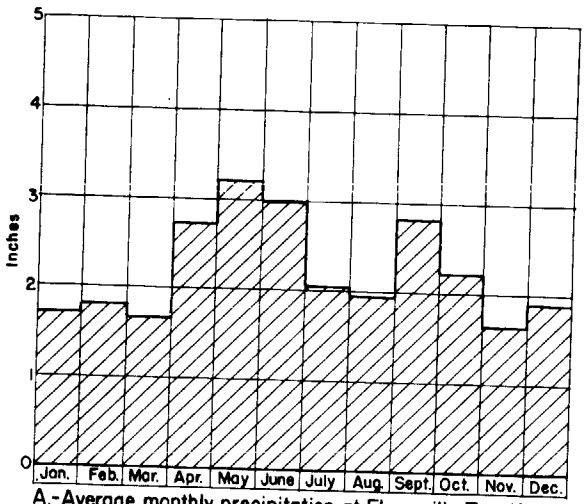
The annual evaporation loss from a free water surface in San Antonio is about 64 inches (evaporation from a Bureau of Plant Industry type pan multiplied by a factor of 0.97).

Table 1.- Monthly precipitation, in inches, at Floresville, Wilson County, Tex., 1916-55

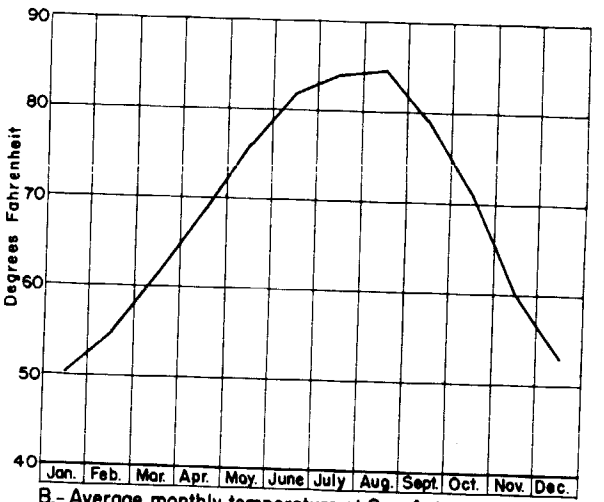
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1916	-	-	-	-	-	-	5.15	3.81	1.21	1.88	1.50	T	-
17	0.90	0.55	T	1.15	2.26	T	.33	.00	1.24	.00	1.45	0.00	7.88
18	.90	2.30	1.50	4.97	.98	2.75	.67	T	4.90	4.95	2.17	4.30	30.39
19	3.09	1.41	2.81	5.60	3.06	2.96	6.24	3.79	4.86	10.08	.62	1.80	46.32
1920	3.84	.42	.35	T	4.15	4.57	1.04	2.90	T	1.60	1.41	T	20.28
21	1.00	.85	2.45	3.80	3.28	1.40	.15	.30	4.95	.75	T	2.50	21.43
22	1.40	.90	1.75	5.15	2.35	6.30	1.90	.30	2.00	4.30	2.35	T	28.70
23	.25	9.95	3.35	3.00	1.20	.65	2.90	3.74	5.62	4.30	2.81	5.61	43.38
24	.85	3.30	.95	2.40	6.41	5.63	.38	T	2.14	.34	.00	1.75	24.15
25	.00	.00	1.08	.70	2.58	.29	1.38	2.56	4.54	2.16	.63	.94	16.86
26	3.46	.35	4.69	2.29	4.13	2.53	1.08	.94	.00	3.08	1.70	1.28	25.53
27	1.41	.95	2.20	3.45	2.54	6.04	.00	1.05	1.48	3.32	.20	2.21	24.85
28	.45	1.41	.63	2.65	3.95	4.10	1.91	1.20	3.52	1.20	3.06	4.14	28.22
29	1.02	.45	3.14	2.11	7.04	3.12	2.55	.00	1.36	3.07	4.01	.97	28.84
1930	1.10	1.81	1.74	1.59	2.38	1.88	1.45	.00	.00	5.06	2.42	.96	20.39
31	4.16	2.62	1.71	1.92	2.48	4.20	2.61	1.53	.00	1.99	.56	3.30	27.08
32	5.49	1.84	1.16	1.92	3.06	1.88	1.28	2.81	7.46	.52	.00	1.88	29.30
33	.32	1.48	1.43	3.12	3.75	.53	5.70	.78	2.46	1.37	.00	.31	21.25
34	4.99	1.81	2.45	3.62	.00	.00	.26	.63	3.39	-	3.97	3.90	-
35	.83	4.36	2.89	3.64	7.63	9.86	5.67	.00	5.25	.00	1.85	3.50	45.48
36	.26	.26	3.14	1.59	6.69	6.96	3.93	-	-	-	-	1.46	-
37	.87	-	1.88	.48	1.61	.59	1.54	2.60	-	2.20	1.35	7.46	-
38	3.21	.88	.51	1.99	2.21	1.02	-	1.62	2.38	.94	.90	2.18	-
39	.95	.79	.24	.00	.04	2.79	1.94	2.75	2.09	.14	.81	1.22	13.76
1940	.49	1.81	1.24	1.68	3.68	6.09	1.30	1.24	1.51	2.56	7.39	3.54	32.53
41	4.62	3.31	2.78	5.31	4.61	6.94	.20	1.35	4.40	1.88	.88	.98	37.26
42	.20	1.45	.00	3.88	2.13	1.40	11.43	4.70	5.80	2.77	1.75	.28	35.79
43	1.20	.33	2.10	.16	4.23	.50	1.95	.29	7.25	.97	2.70	1.22	22.90
44	2.70	1.92	1.15	.28	6.81	.85	.00	2.39	.94	1.13	4.39	1.52	24.08
45	1.85	2.55	2.37	2.17	.00	2.91	.39	.69	1.78	1.77	.00	.17	16.65
46	3.54	2.34	2.33	5.42	3.90	5.22	.00	7.69	6.01	3.02	1.74	3.37	44.58
47	-	.00	2.30	2.16	3.74	-	-	-	-	.94	2.06	1.46	-
48	.73	3.02	.24	1.42	1.48	1.17	2.96	5.24	1.68	2.79	1.24	.10	22.07
49	2.79	1.87	1.13	10.69	.00	5.01	2.70	2.60	.35	4.42	.09	3.18	34.83
1950	.22	1.70	.17	4.79	-	-	-	-	.00	.28	.24	.00	-
51	.26	1.88	1.47	.67	5.68	4.70	.08	.43	3.98	1.92	1.24	.18	22.49
52	.59	2.41	1.64	3.19	2.11	.98	3.55	.00	4.75	.00	3.65	4.04	26.91
53	.91	1.81	.70	1.59	1.78	1.02	.07	7.02	2.76	2.80	.54	1.53	22.53
54	.89	.02	.08	5.09	5.16	1.66	.26	2.02	.54	1.61	.61	.36	18.30
55	1.52	3.41	2.75	.28	2.84	2.26	1.33	2.87	1.00	2.11	2.21	.21	22.52
Average	1.79	1.74	1.78	2.44	3.27	3.07	2.23	1.61	2.96	2.24	1.78	1.89	1/ 26.80

T, trace

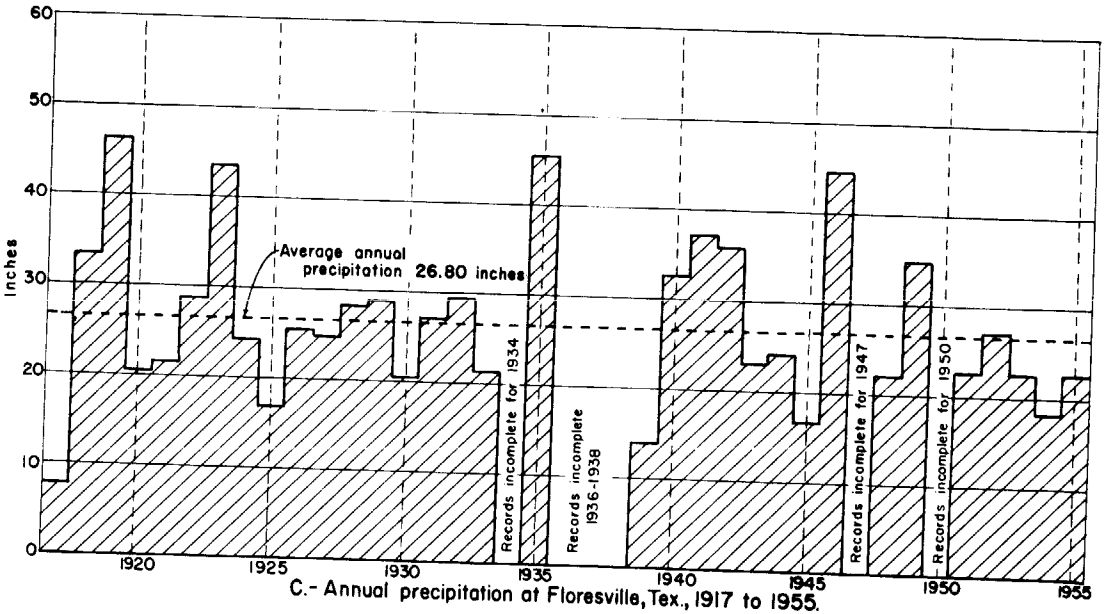
1/ Annual average obtained from sum of monthly average.



A.-Average monthly precipitation at Floresville, Tex., 1916 to 1955.



B.- Average monthly temperature at San Antonio, Tex., 1884 to 1955.



C.- Annual precipitation at Floresville, Tex., 1917 to 1955.

FIGURE 2.- Graphs showing precipitation at Floresville and temperature at San Antonio, Tex.

GEOLOGY AND WATER-BEARING PROPERTIES OF THE FORMATIONS

GENERAL STRATIGRAPHY AND STRUCTURE

The rocks cropping out in Wilson County are of Eocene, Pliocene (?), Pleistocene, and Recent ages. The rocks are all of sedimentary origin and consist primarily of a series of alternating sand, silt, and clay strata that strike generally northeast and dip southeastward toward the coast at rates of 100 to 175 feet per mile (table 2; pls. 1, 2, and 3; and figs. 3 and 4).

The surface geology was mapped primarily by observing differences in the soils formed by decomposition of the rocks, which generally weather rapidly and leave characteristic soil types, clearly distinguishable from one another.

The rocks in Wilson County are cut by many normal faults. Most of the faults strike approximately parallel to the strike of the beds; however, a few faults strike diagonally to the strike of the beds (pl. 1 and fig. 4). The faults generally dip at angles of 45 to 60 degrees, although a few are steeper. Most of the faults are shown as straight lines on plate 1 and figure 4; however, detailed drilling generally has shown the fault surfaces to be irregular, the strike of the faults changing laterally. Some of the faults inferred on plate 1 and figure 4 actually may be fault zones or multiple faults, the outer members of which are several hundreds or even thousands of feet apart. This is true especially of the fault just south of Sutherland Springs and the fault that passes through Floresville (pl. 1).

TERTIARY SYSTEM

Paleocene Series

Midway Group, Undifferentiated

The rocks of the Midway group are the oldest Tertiary rocks in south-central Texas. The Midway does not crop out in Wilson County but is encountered at a depth of about 150 feet in the extreme northern part of the county and dips toward the southeast, where it becomes deeply buried. The group consists mainly of clay and silt, although a few thin but persistent sand beds occur near the top. The thickness of the Midway in Wilson County was not determined; however, electric logs indicate that it is greater than 650 feet. No other records of wells in the Midway group were obtained in Wilson County, and the interpretation of electric logs indicates that the group does not contain fresh water in the county.

Eocene Series

Wilcox Group, Undifferentiated

Rocks of the Wilcox group crop out in the northwestern part of the county. The group is composed of relatively thin-bedded clay, silt, medium to fine sand and sandstone, sandy shale, and clay and thin beds of lignite. The rocks are ferruginous and in many areas have a characteristic reddish-brown color which serves to distinguish them from the Carrizo sand. The Wilcox group ranges in thickness within the county from about 150 to 2,300 feet, and is about 900 feet thick at its surface contact with the Carrizo sand.

Table 2 - Stratigraphic units and their water-bearing properties in Wilson County, Tex.

System	Series	Group	Stratigraphic unit	Approximate thickness (feet)	Character of rocks	Water-bearing properties
Quaternary	Pleistocene		Alluvium	0 - 40	River-terrace deposits composed of silt and clay.	Not known to yield water to wells in Wilson County.
Tertiary(?)	Pliocene(?)		Uvalde gravel	0 - 10	Coarse flinty gravel and coarse iron-stained sand.	Does not yield water to wells in Wilson County.
Tertiary		Jackson	Undifferentiated sedimentary rocks	0 -400	Medium to fine sand and sandstone, clay, and volcanic ash.	Yields small quantities of water of poor quality to wells in Wilson County.
		Claiborne	Yegua formation	0 -850	Medium to fine sand, silt and clay.	Yields small quantities of water of good to poor quality.
			Cook Mountain formation	0 -450	Marine shale and a few thin beds of limestone and medium to fine sand.	Yields very small quantities of highly mineralized water.
	Eocene		Sparta sand	0 -110	Predominantly medium to fine sand; some shale.	Yields moderate amounts of water of fair to good quality in area of outcrop. Water becomes highly mineralized downdip.
			Mount Selman formation: Weches greensand member	0 -130	Glauconitic sand and shale, fossiliferous.	Of no importance as a fresh-water aquifer in Wilson County
			Mount Selman formation: Queen City sand member	0 -800	Medium to fine sand and interbedded shale	Yield and quality of water vary over wide range. Generally yields moderate amounts of water of good to fair quality.
			Mount Selman formation: Reklaw member	0 -300	Generally shown as clay in well logs; becomes much sandier near outcrop in some areas.	Yields small amounts of water of poor quality near outcrop; water generally highly mineralized.
			Carrizo sand	0 -1,000	Coarse to fine sand, small amounts of clay.	Yields large quantities of fresh water. Principal aquifer in county.
		Wilcox	Undifferentiated sand and clay	150 -2,300	Medium to fine sand and clay.	Yield and quality of water vary over a wide range.
	Paleocene	Midway	Undifferentiated clay, silt, and sand	650+	Predominantly clay and silt and a few lenses of sand.	Not a fresh-water aquifer in Wilson County.

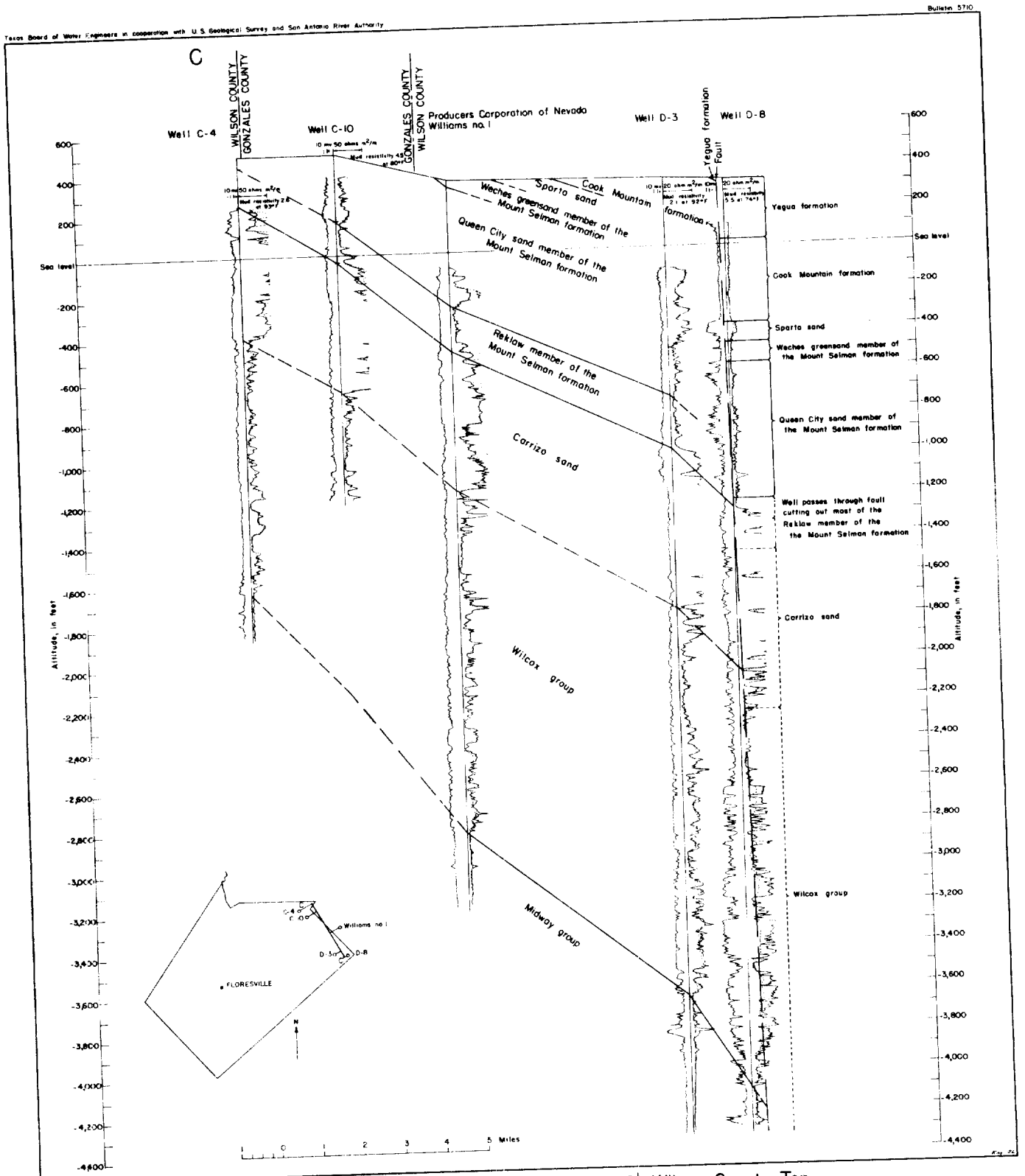


FIGURE 3.- Geologic cross section C-C', Wilson County, Tex.

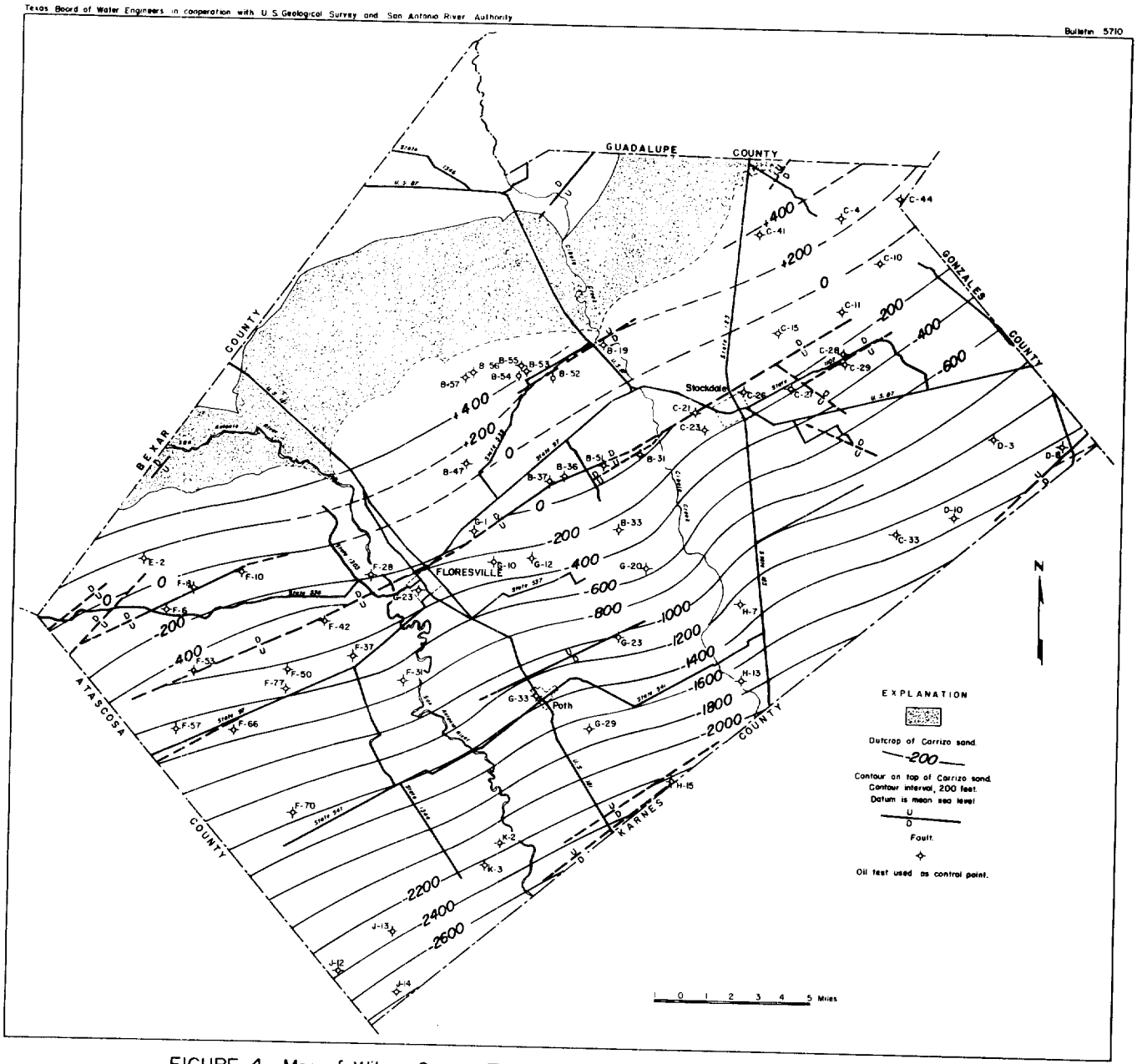


FIGURE 4. - Map of Wilson County, Tex., showing contours on top of the Carrizo sand.

In the area of outcrop, shallow wells tapping the Wilcox generally yield small amounts of water of fair to poor quality for domestic and stock use; however, records were obtained of three deeper wells (A-10, B-4, and B-8) in the area of outcrop that produce water of fair to good quality. Wells A-10 and B-4 yielded 330 and 125 gpm, respectively. Downdip from the area of outcrop, the Wilcox yields moderate to large quantities of water which probably is suitable for use in irrigation. The water in the Wilcox is under artesian pressure except in parts of the area of outcrop, and some wells (A-16, A-17, A-49, A-51, A-53, table 7) will flow. The water levels in wells drilled to the Wilcox stand appreciably higher than the water levels in nearby wells that penetrate the Carrizo sand. Although the drawdown of water level in a well at a given rate of pumping generally is greater in the Wilcox group than in the Carrizo sand, the higher head in the Wilcox group compensates partly for the greater drawdown. Because of the presence of the overlying Carrizo sand, which yields water to relatively shallow wells, there has been but little development of the Wilcox group in Wilson County. However, electric logs and the presence of several wells of moderate to large yield in and near the outcrop show that the Wilcox group is capable of yielding considerably larger quantities of water than are now being produced from it.

Claiborne Group

Carrizo sand

The Carrizo sand, which unconformably overlies the Wilcox group (Deussen, 1924, p. 59; Sellards, Adkins, and Plummer, 1932, p. 615), crops out in a belt 2 to 5 miles wide in the northern and northwestern parts of the county. In the area of outcrop, the Carrizo is composed primarily of massive beds of medium to coarse sand which may contain particles of gravel exceeding 5 millimeters in diameter. Drillers report that the sand becomes finer downdip toward the coast. Sand pits in the area south of Saspamco, and road cuts in other parts of the county where the Carrizo sand crops out, show several feet of loose sand overlying several feet of somewhat coarser sand that contains considerable quantities of silt and clay. The clayey sand in turn overlies rather clean medium to coarse sand. Field examination of a number of Carrizo sand outcrops indicate that the clayey-sand zones, where present, restrict recharge by impeding the downward percolation of water. Before weathering, the Carrizo generally is light cream, tan, or gray; where partly weathered it is tan, pink, red, and brownish red; and where well weathered it is commonly light gray.

The Carrizo sand ranges in thickness from a featheredge at the outcrop to about 1,000 feet near the Wilson-Karnes County line. It is about 600 feet thick at its surface contact with the overlying Reklaw member of the Mount Selman formation. Thus in Wilson County the Carrizo sand is considerably thicker than the sections reported by Deussen (1924, p. 57-58) and Ryman (1954, p. 30) in central Texas, and by Plummer (in Sellards, Adkins, and Plummer, 1932, p. 614) and Deussen (1924, p. 58) in the drainage basin of the Nueces River in south Texas. The dip of the Carrizo sand is about 150 feet to the mile. The altitude of the top of the Carrizo sand in Wilson County is shown by contours in figure 4.

Recharge to the Carrizo sand is from precipitation on the area of outcrop. Where the outcrop is cut by the San Antonio River and Cibolo Creek, water is discharged from the aquifer to the streams because the water table is above stream level--that is, the formation receives water from precipitation at a greater rate than it can transmit the water downdip. The amount of water discharged from the outcrop of the Carrizo by evapotranspiration is not known, but the density of plant growth, especially along the streams, suggests that the loss is large.

Water in the Carrizo sand generally becomes confined less than a mile southeast of its surface contact with the Mount Selman formation. Consequently, most of the water in the Carrizo is under artesian pressure. The altitude to which artesian water will rise in tightly cased wells may be represented by an imaginary surface called the piezometric surface. Water levels in wells near the southeastern limit of the Carrizo outcrop are about 40 feet higher than water levels in wells at the southeastern county line. This gradient is caused by loss of head due to friction as the water moves laterally through the formation and vertically into overlying formations. Flowing wells are obtained in low areas in the vicinity of Sutherland Springs and along the San Antonio River southeast of Calaveras. The discharge from wells and springs at these points have caused low areas in the piezometric surface.

The volume of fresh water in storage in the Carrizo sand in Wilson County is estimated to be 80 million acre-feet, by assuming an average porosity of 30 percent and saturated thickness of 600 feet. Most of the water is in transient storage. A large percentage of the water is, however, beyond the limit of practical recovery because of the great depth at which it occurs. Artesian pressure must be maintained to force the water from the sand, where it lies at great depths, into the wells so that the water can enter the pumps at a higher altitude. It is estimated that at least 4 million acre-feet is available from the Carrizo, however, assuming a specific yield of 15 percent and dewatering of the Carrizo to a depth of 500 feet.

Pumpage from wells in the Carrizo sand in Wilson County averaged about 3 million gallons per day in 1955. All the major ground-water supplies in the county come from wells in the Carrizo, except the municipal water supply at Stockdale. The major municipal users are Floresville and Poth (fig. 5) which together use an average of less than 500,000 gallons per day. Approximately 2 million gallons per day is pumped for irrigation in the county and less than 500,000 gallons per day is pumped for domestic and stock supply from wells scattered throughout the county. A few uncontrolled flowing wells in the county continually waste appreciable quantities of water.

The temperature of water produced from the Carrizo sand increases from about 74°F in the area of outcrop to more than 140°F at a depth of 2,970 feet in the Southern Minerals Corp. Bartosh no. 1 well, which is in Karnes County, one-third of a mile south of the Wilson County line. Thus, the temperature of water in the Carrizo increases about 2.2°F for every 100-foot increase in depth. This temperature gradient corresponds closely with the gradient in deep oil wells in southwest Texas as described by Gray and Kellogg (1955).

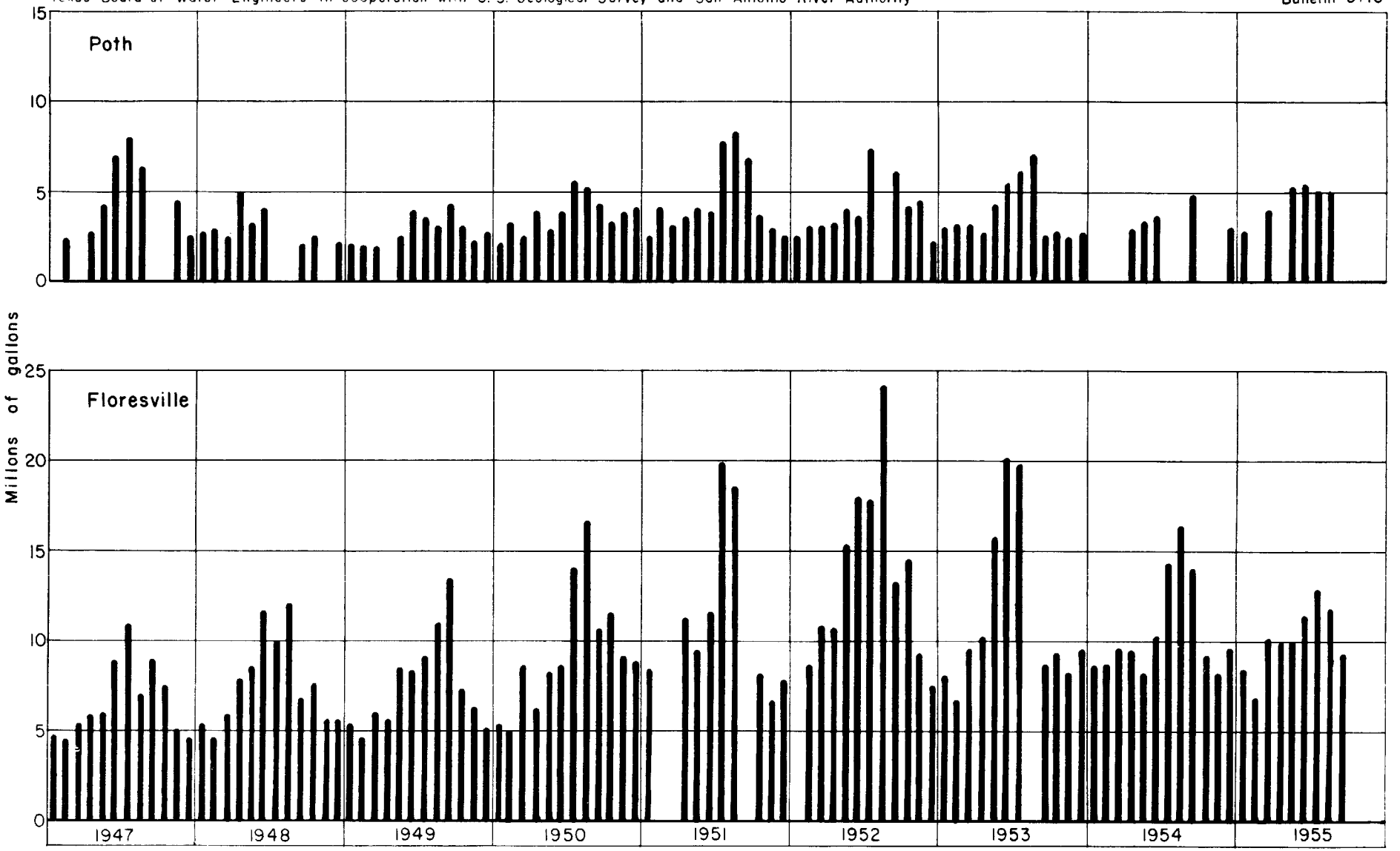


FIGURE 5. - Monthly pumpage from municipal wells at Floresville and Poth, Wilson County, Tex.

Mount Selman formation

Reklaw member.- The Reklaw member of the Mount Selman formation conformably overlies the Carrizo sand in Wilson County. The basal part of the Reklaw consists of 60 to 80 feet of relatively thin-bedded medium to fine sand and silty clay. This basal sand probably can be correlated with a sand which Stenzel (1938, p. 65-71) described as overlying the Carrizo sand in Gonzales and Leon Counties and which he called the "Newby sand member of the Reklaw formation." The "Newby sand member" in Gonzales and Leon Counties may be the same sand that crops out in east Texas and has been called "Cane River" (White, Sayre, and Heuser, 1941, p. 25). The upper part of the Reklaw is composed mainly of clay and silt, although several thin beds of sandstone cemented with calcium carbonate have been observed in the area of outcrop. The upper part of the Reklaw probably correlates with the "Marquez shale" described by Stenzel (1938, p. 71-78) in Leon County. Where the Reklaw is sandy in the area of outcrop or in the immediate subsurface, it is difficult to distinguish from the Carrizo sand and from the overlying Queen City sand member of the Mount Selman formation. Downdip from the sandy facies, however, the contacts are easily distinguished on electric logs because there the Reklaw consists mostly of clay. In surface exposures the Reklaw generally weathers reddish brown because of its high iron content. The thickness of the Reklaw ranges from a featheredge in the area of outcrop to about 300 feet in the subsurface. The Reklaw generally yields only small quantities of water of poor quality in and near the area of outcrop, and downdip the water is too highly mineralized for most purposes.

Queen City sand member.- The Queen City sand member crops out in a belt averaging 6 miles in width that extends across the entire county. The member is composed of beds of medium to fine sand, sandy clay, silty clay, clay, and shale. The Queen City generally displays light colors on fresh exposures but soon weathers to various shades of tan, red, and brown. Locally the iron content is so high that the Queen City may be mistaken for the Weches greensand member of the Mount Selman formation. The Queen City ranges in thickness from a featheredge at the outcrop to more than 800 feet near the Wilson-Karnes County line.

The presence of beds of clay and shale in the sand causes much of the water in the Queen City to be under artesian pressure. In the area of outcrop, the pressure is not great enough to cause the wells to flow; however, several wells drilled to the Queen City sand member in low areas southeast of and downdip from the outcrop flow small volumes of rather highly mineralized water. In most places the Queen City sand member yields only small amounts of water to domestic and stock wells. Nevertheless, moderate to relatively large yields of water of good quality are obtained in places in and near the area of outcrop where the sands are relatively massive. For example, two wells, C-24 and C-25, supply enough water for the city of Stockdale, and well G-47, an irrigation well, yielded 800 gpm during a pumping test. In many areas where the Queen City exceeds a thickness of 300 feet, yields of 200 to 600 gpm may be expected from properly constructed wells. Where the sands are thin and fine grained, only small quantities of moderately to highly mineralized water are obtained.

Weches greensand member.- The Weches greensand member is the upper member of the Mount Selman formation and overlies the Queen City sand member conformably. The Weches consists principally of fossiliferous glauconitic shale and sand which

weather to a reddish-brown ferruginous, clayey soil. This soil and numerous septarian concretions in some of the clays generally make the outcrop of the Weches easy to recognize. The Weches greensand member is on the average about 100 feet thick. It is not known to yield water to wells in Wilson County.

Sparta sand

The Sparta sand overlies the Mount Selman formation with probable conformity and is composed of medium to fine gray to reddish-tan sand and clay. Most of the sand is in the upper two-thirds of the Sparta, the lower one-third being mostly clay. In the outcrop the upper part of the Sparta generally is composed of loose sand that is easily transported by the wind. The light-colored sandy soil developed on the Sparta contrasts sharply with the dark-gray and dark-brown soil on the overlying Cook Mountain formation and the reddish soil on the underlying Mount Selman formation. The Sparta ranges in thickness from a featheredge at the outcrop to about 110 feet in the subsurface where the complete section is present.

Although the Sparta sand is tapped by only a few wells in Wilson County, it yields small to moderate amounts of potable water in the southeastern half of the outcrop belt and for a mile or more downdip from the surface contact with the Cook Mountain formation. In most of the area southeast of the Sparta-Cook Mountain surface contact, the water in the Sparta is under artesian pressure and wells tapping the Sparta flow in some low-lying areas. Although the Sparta is not used as a source of irrigation water in Wilson County, it seems likely that enough water to irrigate small tracts could be obtained from the formation.

Cook Mountain formation

The Cook Mountain formation overlies the Sparta sand. It consists of about 450 feet of fossiliferous clay and shale containing a few sandstone and limestone lenses and minor amounts of glauconite and selenite.

The Cook Mountain furnishes small amounts of water of poor quality to a few wells in the county.

Yegua formation

The Yegua formation, often referred to as the "Cockfield" formation, is the uppermost formation of the Claiborne group. It is exposed as a broad belt of medium to fine sand, silt, and clay which weather to light red and tan. Although the Yegua resembles the Queen City sand member of the Mount Selman formation, the sands that make up the Yegua generally are lighter colored, finer grained, and thinner bedded. The Yegua also is less ferruginous, contains gypsum in the form of selenite, and, according to Lonsdale (1935, p. 41), contains beds of lignite and limestone. The weathered surface of the Yegua is a lighter red than that of the Queen City and is easily distinguished from the gray, black, and brown clay soils derived from the Cook Mountain formation. The Yegua has a maximum thickness of about 850 feet in the subsurface.

The Yegua formation yields water that is generally of poor chemical quality, although it is used for livestock and in some places for domestic purposes. The Yegua probably will not yield large quantities of water to wells in Wilson County. The formation is important as an aquifer in Wilson County because it is the only shallow source of water in the area in which it crops out.

Jackson Group, Undifferentiated

The Jackson group crops out in the southern part of Wilson County where only the lower 400 feet is exposed. The group consists of medium to fine sand, sandstone, silt, clay, and volcanic ash. Where unweathered the rocks are light colored, but upon weathering, especially where considerable volcanic ash is present, they form a dark-gray soil that contrasts sharply with the reddish soil of the Yegua formation. In some areas resistant tuffaceous sandstone form ranges of rather rugged low hills. The rocks in the group supply relatively highly mineralized water to a few wells in Wilson County.

TERTIARY(?) SYSTEM

Pliocene(?) Series

Uvalde Gravel

The Uvalde gravel consists of small, isolated deposits of gravel and sandy gravel which generally occur only in a zone extending several miles on either side of the San Antonio River and Cibolo Creek. Although the gravel is characteristically cherty, rounded pieces of limestone and quartz are present in some areas. In the area of outcrop of the Carrizo sand and southeastward thereof, the gravel deposits generally are associated with coarse sand, much of which is well cemented with limonite. The Uvalde gravel is seldom more than 2 to 5 feet thick in Wilson County, although it may reach a maximum thickness of 10 feet. The formation does not yield water to wells in Wilson County.

QUATERNARY SYSTEM

Pleistocene Series

Alluvium

The alluvial terrace deposits along the San Antonio River and Cibolo Creek are composed primarily of fine sand and silt that contain the shells of many freshwater snails. The thickness of the alluvial deposits ranges from a featheredge to about 40 feet. The terrace deposits are only slightly permeable, and where present they appear to impede the movement of water from the Carrizo sand to the San Antonio River and Cibolo Creek. The alluvial deposits are not an important source of water; however, in places they might yield small quantities.

HYDROLOGY

GROUND WATER

Most of the ground water of good quality in Wilson County is derived directly from rain that falls on the rocks in the county. Observations indicate that in general rains of less than an inch do not wet the soil to a depth exceeding 2 feet, and most if not all of that water is subsequently lost by direct evaporation from the soil and transpiration by plants. If the rainfall is great enough, however, only a part of the water is lost by evapotranspiration, and the remainder may percolate downward until it reaches the water table. It seems probable that significant recharge to the water-bearing formations (aquifers) occurs only during abnormally wet years or during substantial rainstorms that last long enough to allow relatively large amounts of water to soak into the soil. A part of the water that reaches the water table moves toward streams where it is either discharged as springflow or is lost by evapotranspiration. The springflow and heavy vegetation along the San Antonio River, Cibolo Creek, and some of the smaller streams are maintained by such ground-water discharge.

Some of the ground water moves downdip into areas where the aquifers are covered by less permeable material, such as beds of clay. The water then becomes confined and artesian conditions result. The altitude to which water would rise in an infinite number of wells penetrating an artesian aquifer is represented by an imaginary surface called the piezometric surface. Water in the aquifers moves from areas of recharge where the artesian pressure head is high to areas of discharge where the pressure head is lower. The discharge areas in Wilson County are areas where water is being discharged through wells and springs and where the water is discharged upward through clays and sands or along faults from sands having high pressure head to sands having a lower pressure head. Most of the ground water in the county is under artesian pressure, and the piezometric surfaces slope in the direction of the dip of the aquifers. The land surface also slopes southeastward toward the Gulf Coast, parallel to the dip of the aquifers. Where the piezometric surface is above the land surface, wells that tap artesian aquifers will flow.

Development of Ground Water

Records were obtained for 16 wells in Wilson County that were completed before 1900. The wells range in depth from 26 to 114 feet and are mostly from 24 to 48 inches in diameter. All were excavated by hand and lined with rock, except one bored well which was cased with tile. Small quantities of water are still obtained from these wells.

Drilled wells became more common about 1900, and in recent years practically all wells have been drilled by the rotary method. The average productive life of drilled wells in Wilson County is about 30 years. The wells generally are 4 to 6 inches in diameter, are cased to their full depth, and have the bottom 20 to 60 feet of casing slotted; most of them yield relatively small amounts of water for stock and domestic purposes. Most of the wells are equipped with cylinder pumps powered by wind, although a few are powered by electricity and a very small number are driven by gas or gasoline engines.

Most of the irrigation and public-supply wells are 8 to 12 inches in diameter, have been drilled since 1945, and are equipped with turbine pumps powered by butane, gasoline, or electricity. The yield of most of the wells ranges from about 75 to 600 gallons per minute, although yields as high as 1,600 gallons per minute have been reported for wells that derive water from the Carrizo sand.

A comparison of the water levels in 1936 (Marek, 1936) with water levels in the same wells in 1954 and 1955 shows no significant changes.

Aquifer Tests

Several aquifer tests were made in Wilson and Gonzales Counties during the course of the present investigation to determine the coefficients of transmissibility and of storage of the Carrizo sand, the principal aquifer. Several additional tests of the Carrizo in Atascosa County had been made previously. The data from the tests were analyzed by the Theis "nonsteady-state" method as modified by Cooper and Jacob (Cooper, 1946) and the Theis "recovery" method (Wenzel, 1942). The results of the tests are shown in table 3, and the locations of the test sites are shown in figure 6. The coefficients of transmissibility in table 3 are less than those for the full thickness of the Carrizo because the wells tested were screened through only part of the formation and the tests were not long enough to overcome the effect of partial penetration.

Table 3.- Results of aquifer tests of Carrizo sand in Atascosa, Gonzales, and Wilson Counties

Location of well	Coefficient of transmissibility (gpd/ft.)	Coefficient of storage	Length of well screen or slotted casing in pumped well (feet)
Floresville, Tex. (Well G-3, pumped; Well G-4, observed)	29,000	1.4×10^{-4}	23
Nixon, Tex. (Gonzales County)	40,000	1.6×10^{-4}	50
Campbellton, Tex. (Atascosa County)	40,000	1.0×10^{-4}	200
Near Pleasanton, Tex. (Atascosa County)	150,000	5.0×10^{-4}	300
J. T. Harris Ranch 13 miles southwest of Poth. (Well J-4, pumped; Well J-5, observed)	29,000	2.9×10^{-5}	140

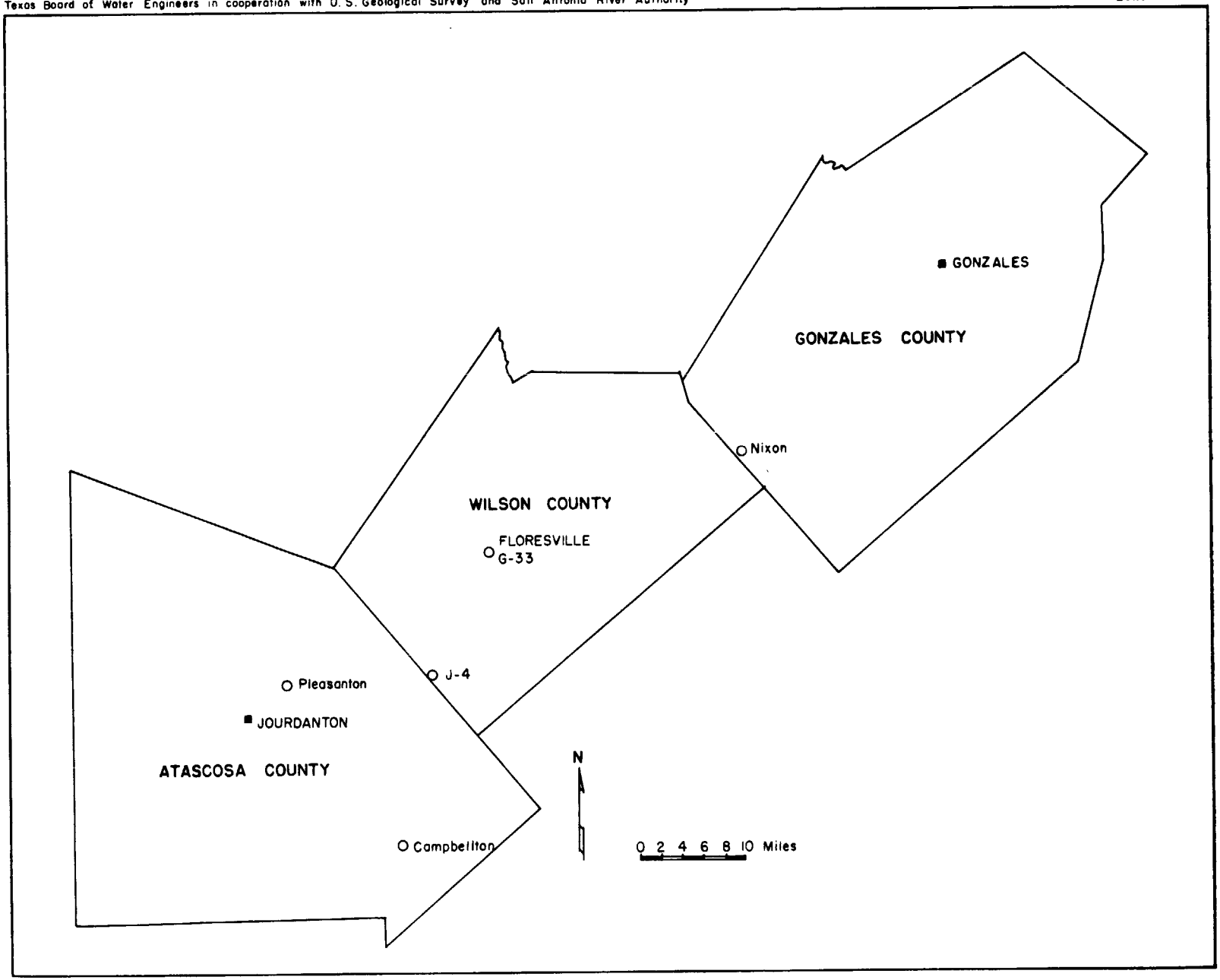


FIGURE 6.- Map showing location of aquifer test sites.

The coefficient of transmissibility is expressed as the number of gallons of water that will move in one day through a vertical strip of the aquifer 1 foot wide, extending the full thickness of the aquifer, under a hydraulic gradient of 100 percent, or 1 foot per foot. The coefficient of storage is the volume of water an aquifer releases from or takes into storage per unit of surface area of the aquifer per unit change in the component of head normal to that surface. The coefficients of transmissibility and storage are related to well yield. For example, two wells identical in construction would yield different quantities of water for the same amount of drawdown if either or both of the coefficients were different. The well with the higher coefficient of transmissibility or storage would have the higher yield. The relation of yield to transmissibility is almost direct whereas that to the coefficient of storage is logarithmic. The change in yield with a change in the coefficient of storage is much smaller than the change in yield with a proportionate change in the coefficient of transmissibility.

The coefficients of storage and transmissibility are useful in predicting the lowering of the piezometric surface in the vicinity of discharging wells. Figure 7 shows the lowering of the piezometric surface at different distances from a pumped well caused by pumping the well at a rate of 1,000 gpm for different periods of time under the assumed conditions. The resulting drawdowns should be near maximum for the Carrizo sand because they were computed from the lowest coefficients obtained in the area; hence, they are conservative. The drawdowns for other pumping rates can be determined because the drawdown is directly proportional to the pumping rate.

QUALITY OF WATER

The chemical quality of the ground water in Wilson County is controlled by the rocks through which the water moves. Some of the aquifers contain thick, well-sorted medium or medium to coarse sand beds that yield moderate to large amounts of water of good quality in the area of outcrop and, in the Carrizo sand, for many miles downdip. The thick sand beds are separated by thin-bedded fine sand and clay that yield only small amounts of water of poor quality. The remainder of the aquifers are finer grained, thinner bedded, contain more clay, and generally yield rather highly mineralized water. Chemical analyses of 215 samples of water from 211 selected wells and springs in Wilson County are given in table 8. Of the 215 analyses, 74 were made by the U. S. Geological Survey, and the remaining 141 analyses from the report by Marek (1936) were made by personnel of the Works Progress Administration working under the supervision of the Bureau of Industrial Chemistry of the University of Texas. The latter analyses, although useful, probably do not conform to the standards of accuracy of the U. S. Geological Survey. The analyses show that the chemical quality of the ground water in Wilson County varies widely within as well as between stratigraphic units. The range in dissolved solids is from less than 100 parts per million (ppm) to more than 6,000 ppm. The Carrizo sand generally yields water of the best quality, whereas the Jackson group yields water of the poorest quality.

Some of the standards suggested by the United States Public Health Service for drinking water are given in table 4.

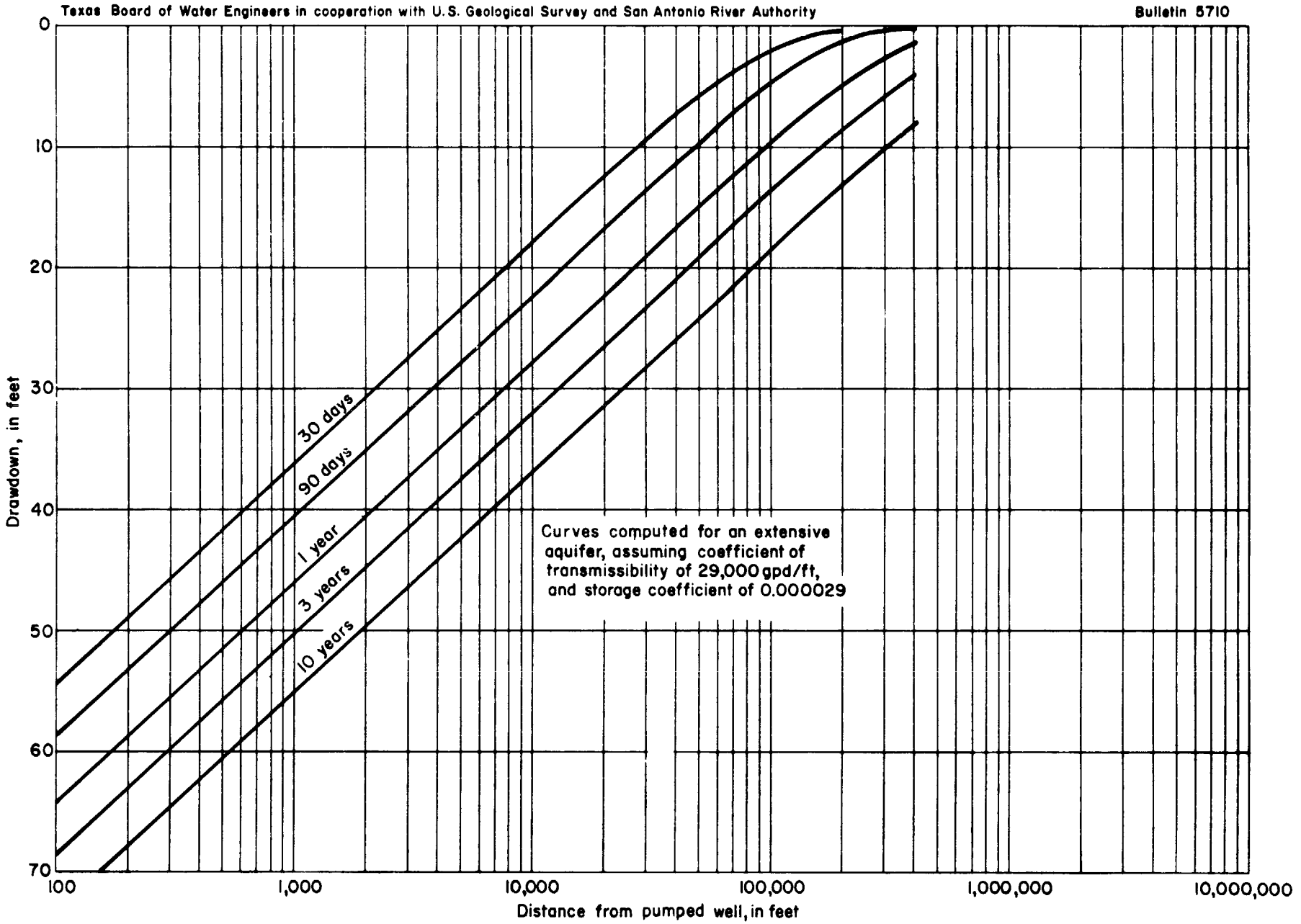


FIGURE 7.- Graph showing the relation of the lowering of the piezometric surface to distance from a well discharging 1,000 gallons per minute.

Table 4.- Concentration limits of some chemical substances in natural or treated waters that may be used on common carriers engaged in interstate commerce.*

Iron (Fe) and manganese (Mn) together should not exceed 0.3 ppm.
Magnesium (Mg) should not exceed 125 ppm.
Chloride (Cl) should not exceed 250 ppm.
Sulfate (SO_4) should not exceed 250 ppm.
Fluoride (F) should not exceed 1.5 ppm.
Total solids should not exceed 500 ppm, although 1,000 ppm is permissible if better water is not available.

*Public Health Service Drinking Water Standards, 1946, reprinted from Public Health Reports, v. 61, no. 11, March 15, 1946, p. 371-384.

Much of the water obtained from wells in Wilson County is acceptable for municipal use. Public supplies are obtained from the Wilcox group, the Carrizo sand, and the Queen City sand member of the Mount Selman formation.

The hardness of a water is commonly recognized by the amount of soap needed to produce a lather, and by the curdy precipitate that forms before a permanent lather is obtained. The constituents that cause hardness are mainly calcium and magnesium. These also cause the formation of scale in steam boilers and tea-kettles. Water having a hardness of less than 50 ppm is rated as soft, and its treatment for the removal of hardness is rarely justified. Hardness between 50 and 150 ppm does not interfere seriously with the use of water for most purposes, but it does increase slightly the consumption of soap, and its reduction by a softening process is profitable for laundries and certain other industries. Treatment for the prevention of scale is necessary for the successful operation of steam boilers using waters in the upper part of this range of hardness. Where the hardness is 200 or 300 ppm, it is common practice to soften water for household use. Analyses of 156 samples of water from wells in Wilson County showed a range in hardness from 10 ppm to about 2,700 ppm.

Waters containing chloride in small amounts are generally satisfactory for most ordinary uses, although appreciable concentrations of chloride impart an objectionable salty taste and are corrosive to many metals. Water samples from 67 wells in Wilson County contained chloride in excess of 250 ppm.

The recommended sulfate concentration limit (table 4) was exceeded by water from 72 wells. Ordinarily, sulfate has little effect on the suitability of water for ordinary use unless enough is present in combination with magnesium or sodium to produce a laxative effect.

Of the samples analyzed for fluoride, only one had a concentration of fluoride in excess of 1.5 ppm.

Maxcy (1950) stated that water having a nitrate concentration between 20 and 40 ppm might be a contributing factor in causing infant methemoglobinemia ("blue-baby" disease and that water having a nitrate concentration exceeding 44 ppm (10 ppm of nitrate nitrogen) probably is dangerous for infant feeding. The report also pointed out that boiling would not eliminate the nitrate. Most of the ground

water in Wilson County contains little or no nitrate. Of 67 water samples for which nitrate was determined, 14 contained from 1 to 20 ppm of nitrate, 2 samples contained between 20 and 40 ppm, and 1 sample had 171 ppm of nitrate. Concentrations of nitrate exceeding a few parts per million may result from pollution of water by animal wastes, in the form of seepage from barnyards or privies.

Analyses of water from 25 irrigation wells indicated that in general the water is suitable for irrigation, but water from some of the wells has a sufficiently high percent sodium, concentration of dissolved solids, or boron content to lessen the yield of some sensitive crops if the water were used over a long period of time. Percent sodium is the ratio of the equivalents per million of sodium to the sum of the equivalents per million of the cations (calcium, magnesium, sodium, and potassium) expressed as a percentage.

Although most salts of sodium in low concentrations are not injurious to plant life, they are detrimental both to plant life and to the physical condition of the soil when in high concentration, especially when the percent sodium (the proportion of sodium to total bases, expressed in chemical equivalents) is high. In figure 8 the percent sodium has been plotted against the specific conductance, the latter being indicative of the total dissolved solids in the water. Within this plot the samples of water from the various aquifers in Wilson County fall into groups ranging from excellent to unsuitable for use in irrigation. Other factors, however, are equally important in determining whether individual waters are suitable for irrigation. Among the more important factors are the permeability of the soil and subsoil, the slope of the land, the amount and frequency of rainfall, the type of crops cultivated, and the quantity of water used. Thus, waters having concentrations of dissolved minerals and percent sodium considered unsuitable for irrigation have been used successively for years to irrigate crops in local areas where conditions of soil chemistry or of drainage, or both, outweighed the unfavorable chemical nature of the water applied (Follett, White, and Irelan, 1949; Knowles and Lang, 1947).

An excessive boron content will make water unsuitable for irrigation. Table 5 shows the suggested limits of boron for several classes of irrigation water. Irrigation water containing objectionable quantities of boron has been found in wells in nearby areas of south Texas; however, analyses of 33 samples of water from Wilson County indicate a range in boron content from 0.07 ppm to 0.87 ppm and an average of 0.34 ppm. All the samples fell within the grades "permissible" to "excellent".

Table 5.- Recommended limits of boron for several classes of irrigation water.
Adopted from Wilcox (1955, p. 11)

Classes of water		Sensitive crops	Semitolerant crops	Tolerant crops
Rating	Grade	(ppm)	(ppm)	(ppm)
1	Excellent	<0.33	<0.67	<1.00
2	Good	0.33 to 0.67	0.67 to 1.33	1.00 to 2.00
3	Permissible	0.67 to 1.00	1.33 to 2.00	2.00 to 3.00
4	Doubtful	1.00 to 1.25	2.00 to 2.50	3.00 to 3.75
5	Unsuitable	>1.25	>2.50	>3.75

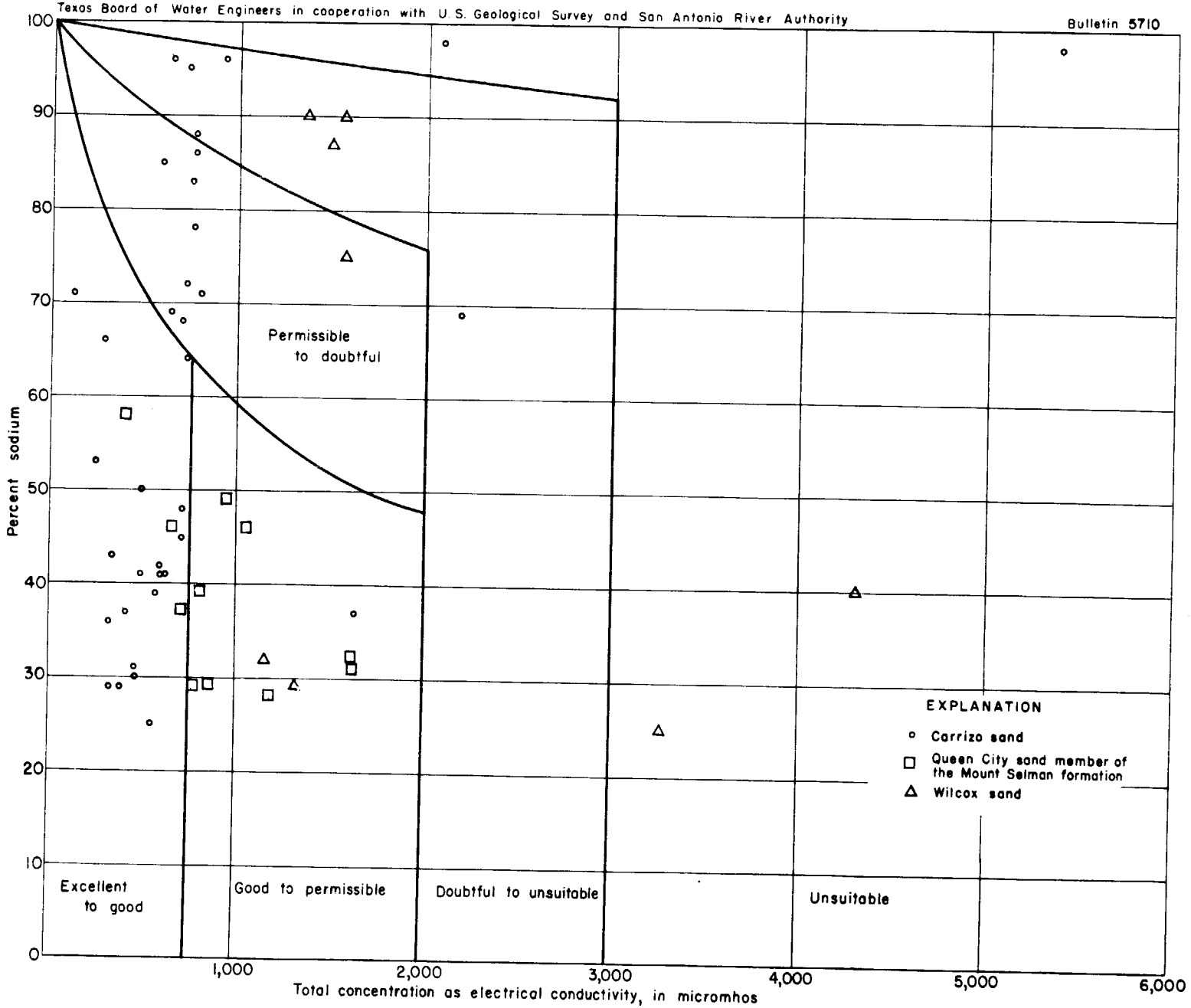


FIGURE 8.- Diagram for use in interpreting analyses of irrigation water (Adapted from Wilcox, 1948, p. 26)

The Wilcox group in Wilson County generally yields water that is more highly mineralized than that obtained from the Carrizo sand. In most parts of the area of outcrop and for several miles downdip, however, the Wilcox yields water that can be used for municipal supply and for irrigation.

The Carrizo sand is the most important source of ground water of good quality in Wilson County, yielding fresh water to wells in all parts of the county where the saturated formation is present. The quality of the water remains good as the sand thickens downdip to points where the overburden is 1,500 to 2,000 feet thick. Farther downdip the water in the upper part of the Carrizo becomes progressively more highly mineralized, the zone of highly mineralized water being in general wedge-shaped and thickening downdip. Electric logs indicate that the water in the lower part of the Carrizo also changes in quality, becoming progressively more highly mineralized in a zone that thickens downdip. Thus, only the middle 500 or 600 feet of the Carrizo contains fresh water along the Wilson-Karnes County line.

The relationship among the principal ions contained in water from wells tapping the Carrizo sand is shown diagramatically in figure 9. The relationship is shown by two diagrams for each well. The upper diagrams show the equivalents per million (epm) of the cations and anions as percentages. For example, the upper diagram for well B-18 shows the percentage of equivalents of calcium, magnesium, and sodium and potassium to be about 10, 8, and 82, respectively, and the percentage equivalents of bicarbonate, sulfate, and chloride to be about 78, 10, and 12, respectively. The lower diagrams show the actual concentration of the cations and anions in equivalents per million. Thus the lower diagram for well B-18 shows the concentrations of calcium, magnesium, and sodium and potassium to be about 1, 0.5, and 8.7 epm, respectively, and the concentrations of bicarbonate, sulfate, and chloride to be 8, 1.3, and 1.7 epm, respectively.

The diagrams in figure 9 indicate that water from wells tapping the Carrizo is not of uniform quality. The diagrams indicate also that, downdip from the outcrop, the sodium concentration generally increases, whereas the calcium and magnesium concentrations decrease, showing that a natural softening of the water is taking place.

Some of the differences in quality shown by the diagrams are probably caused by leaky wells which allow the entrance of relatively highly mineralized water from other formations. The anomalous chemical character of water from well H-1 may be caused by leakage of water into the well from a sand above the Carrizo.

The Mount Selman formation yields water that varies greatly in quality. Water in the Reklaw member generally is highly mineralized. Where the Reklaw is sandy in and near the area of outcrop, however, the contained water is only moderately mineralized. The Queen City sand member also yields fresh water in and near the area of outcrop. The more permeable zones in the Queen City generally yield water that is suitable for irrigation or municipal supply, whereas the less permeable zones in the member yield moderately to rather highly mineralized water. The dissolved-solids content in samples from wells tapping the Queen City ranged from 118 to more than 4,700 ppm. The upper part of the Queen City probably contains usable water for several miles downdip in some areas.

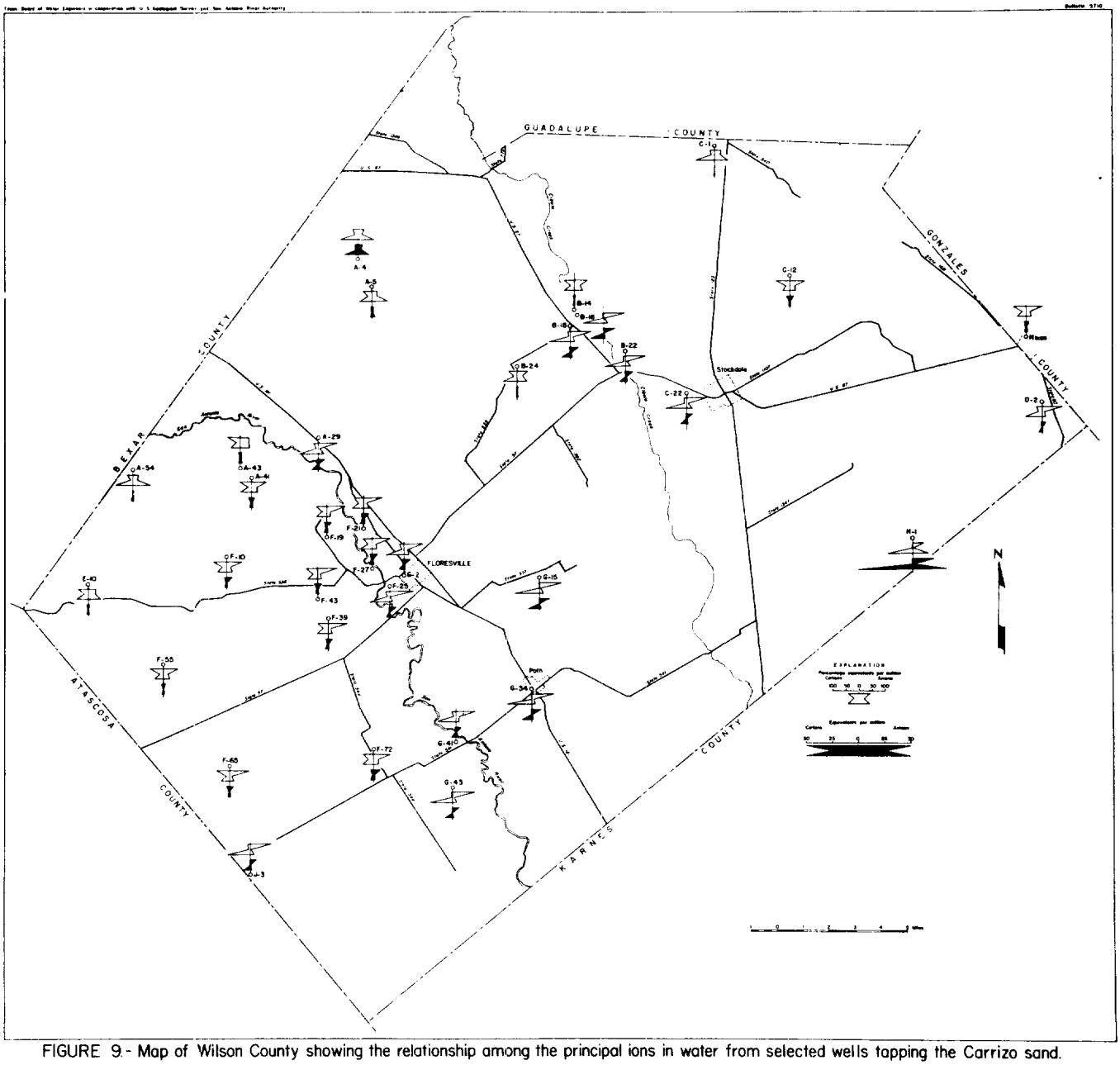


FIGURE 9.- Map of Wilson County showing the relationship among the principal ions in water from selected wells tapping the Carrizo sand.

The Sparta sand contains fresh water in the area of outcrop and for a mile or more downdip. Where more deeply buried, the water in the Sparta is highly mineralized.

The Yegua formation and the Jackson group in Wilson County ordinarily yield water that is highly mineralized and is used only for watering stock. Some wells in the Yegua formation, however, yield water that is used for domestic purposes.

SURFACE WATER

The San Antonio River and Cibolo Creek are the only perennial streams in Wilson County. Most of the flow of all the streams in the county occurs as flood runoff during and for a short time after moderate to heavy rains.

The San Antonio River has a drainage area of 2,070 square miles above the Falls City gaging station in Karnes County maintained by the Surface Water Branch of the U. S. Geological Survey. For the 28-year period from May 1925 through December 1954, the river had a maximum flow of 47,400 cubic feet per second (cfs) on September 29, 1946, a minimum flow of 23 cfs on June 15, 1954, and an average flow of 300 cfs. The average yearly discharge is 217,000 acre-feet. Cibolo Creek has a drainage area of 830 square miles above a gaging station near Falls City. For the 23-year period from December 1931 through December 1954 the creek had a maximum flow of 33,600 cfs on July 16, 1942, a minimum flow of 1.9 cfs on August 6, 1954, and an average flow of 114 cfs. The average yearly discharge is 83,000 acre-feet. The combined average yearly flow of the San Antonio River and Cibolo Creek, therefore, is approximately 300,000 acre-feet.

The principal use of surface water in Wilson County is for irrigation. Most of the water is obtained from the San Antonio River and Cibolo Creek. In order to provide for the equitable distribution and use of the water in the streams of the state, the Texas Board of Water Engineers has the authority to issue water permits which allow specified amounts of water to be withdrawn from the streams at a location designated by the permit. The rate of withdrawal, the amount of land to be irrigated, and in some cases the time of year that these withdrawals may be made, also are specified by the permit. Permits have been issued allowing 4,326 acres to be irrigated in Wilson County with 8,478 acre-feet of water a year from the San Antonio River. The maximum rate that this water may be withdrawn from the river is 62.75 cfs. Permits have been issued allowing 585 acre-feet a year to be withdrawn from Cibolo Creek to irrigate 503 acres at a maximum rate of withdrawal of 15 cfs.

SUMMARY

The ground-water resources of Wilson County have been only partly developed. Large quantities of ground water suitable for irrigation or public supply are available for development from the Carrizo sand, the Queen City sand member of the Mount Selman formation, and the Wilcox group. Although the water in the Queen City and the Wilcox becomes highly mineralized several miles downdip from their areas of outcrop, it remains useful in the outcrop areas and for variable distances downdip. Water of good quality can be obtained from the Carrizo in almost all parts of the county where the sand is present. The fresh-water-bearing sands in the Carrizo average about 600 feet in thickness and contain an estimated 80 million acre-feet of water in transient storage. An estimated 4 million acre-feet of the water is available for development. The present pumpage from wells in the Carrizo averages about 3 million gallons per day, or about 3,400 acre-feet per year.

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Table 6.- Records of wells and springs in Wilson County, Texas
(All wells are drilled unless otherwise noted in remarks column)

Method of lift: A, airlift; B, bucket; C, cylinder; Cf, centrifugal, E, electric; G, gasoline; H, hand; J, jet; T, turbine; W, windmill. Number indicates horsepower.

Use of water: D, domestic; Ind, industrial; Irr, irrigation; N, none; P, public supply; S, stock.

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level		Method of lift	Use of water	Remarks
							Below land-surface datum (ft.)	Date of measurement			
A-1	Theodore Stanush	--	1920	65	30	Wilcox group	56.3	Apr. 23, 1955	C,W	S	Dug.
*A-2	do	--	1950	110	6	do	83	do	C,E	D,S	
*A-3	W. F. Boldt	--	1900?	75	30	do	52.9	Apr. 26, 1955	C,W	S	Dug.
*A-4	Paul Markowski	--	--	36	48	Carrizo sand	32.8	May 27, 1955	C,H	--	Do.
*A-5	D. A. Perkins	--	1950	130	5	do	118.4	Apr. 19, 1954	C,E	D,S	
*A-6	Frank Jolly	--	1910	25	24	Wilcox group	17.6	Apr. 19, 1955	C,W	D,S	Dug.
*A-7	Carlos Seguin	--	1928	85	4	do	60.7	Nov. 4, 1954	C,H	D,S	Observation well.
*A-8	R. E. Murray	--	1940?	75	5	do	54.4	Nov. 6, 1953	C,E	D,S	Casing, 75 ft of 5-in.
*A-9	Jim Sweeney	--	--	47	48	do	41.6	do	C,E	D	Dug. Rock-walled.
*A-10	San Antonio Pipe & Sewer Co.	--	--	600	10	do	a/110.0	Dec. 1952	T,E, 15	P,Ind	Casing, 250 ft of 10-in. Yield reported 330 gpm.
A-11	A. C. Oefinger well 3	W. R. Quin et al	1949	2,953	--	--	--	--	--	--	Oil test.
*A-12	Saspamco Sand Co.	Geo. Guenther	1949	554	12, 4	Wilcox group	--	--	T,E, 5	Ind	Yield, 50 gpm. Temp. 81°F. See log.
A-13	Mrs. Joe Carvajal	--	1870	39	--	Carrizo sand	37.1	Nov. 5, 1954	C,W	D,S	Dug. Rock-walled.
A-14	Alberto Carvajal	--	1905	33	24	do	26.4	do	B,H	S	Dug. Casing, 24-in., tile to 30 ft.
A-15	do	--	1935	30	48	do	28.1	do	B,H	D	Dug. Casing, 48-in., tile to 48 ft.
A-16	Emil Ploch	-- Johnson	--	1,600	12	Wilcox group	+	Nov. 6, 1953	Flows	S	
A-17	do	-- Korlage	1953	600	5	do	+	do	Flows	D,S	Casing, 600 ft of 5-in. Flows 5 to 6 gpm. Temp. 78°F.
A-18	do	--	--	50	4	Carrizo sand	36.7	do	C,E	D	Casing, 50 ft of 4-in.
*A-19	San Antonio & Aransas Pass Ry. Co.	--	--	86	20	do	34.9	Dec. 6, 1954	B,H	D	Dug. Observation well. See log.
A-20	--	--	--	50	24	do	35.3	Oct. 27 1953	C,H	D	Bored. Casing, 50 ft of 24-in. tile.
A-21	--	--	--	--	4	do	107.9	Oct. 28, 1953	C,W,E	D,S	

a/ Reported by owner or driller.

* For chemical analyses see table 8

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level: Below land-surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
A-22	Bruno Johns	--	1870	30	36	Carrizo sand	27.9	Apr. 20, 1955	N	N	Dug.
*A-23	do	--	1880	40	30	do	36.0	do	C,W	N	Do.
*A-24	Mrs. Lucia Montola	--	1900	100	36	do	70.6	Dec. 6, 1954	C,W	D,S	Dug. Observation well.
*A-25	O. C. Johns	--	--	Spring	--	do	+	July 19, 1955	Flows	--	Yield estimated, 90 gpm.
*A-26	Alfred Roemer	--	--	Spring	--	do	+	July 20, 1955	Flows	S	Yield estimated, 5 gpm.
A-27	do	--	--	Spring	--	do	a/+	Feb. 1955	Flows	--	Yield reported 50 to 70 gpm.
*A-28	Dan T. Johns	--	--	400	8	do	a/40.0	Apr. 1955	C,W	D,S	
*A-29	O. C. Johns	Tom Moy	1954	1,036	5-7/8, 4	Carrizo sand & Wilcox group	a/20.0	Apr. 1955	T,E, 10	Irr	Casing, 560 ft of 5 7/8-in; Perforated from 520 to 560 ft. Yield reported 75 gpm. Temp. 78°F.
*A-30	Joe Garcia	--	--	110	4	Carrizo sand	18.0	Dec. 6, 1954	C,W	D,S	Observation well.
A-31	Leroy Shellhase	--	--	200	4	do	38.4	Oct. 28, 1953	C,W	D,S	Dug to 84 ft. Altitude of land-surface, 431.4 ft.
*A-32	Carl Shellhase	--	1905	85	4	do	43.7	Apr. 20, 1955	C,W	D	Water level recovering when measured; pump off 20 minutes.
*A-33	do	--	1890	46	48	do	42.0	do	N	N	Dug.
A-34	do	--	--	Spring	--	do	--	July 12, 1955	Dry	--	Reported to flow following rains.
A-35	Arnold Nitsch	--	--	82	7½	do	36.3	Oct. 27, 1953	C,W,E	D,S	Casing, 82 ft of 7½-in.
*A-36	Emil Frieda	--	1914	87	4	Queen City sand member	32.0	Nov. 16, 1954	C,W	D,S	
*A-37	E. Savoy	--	1934	45	4	do	--	--	C,E	D,S	Casing, 40 ft of 4-in.
A-38	Jerry Pavliska	Geo. Guenther	1946	218	4	Carrizo sand	47.7	Nov. 5, 1953	C,W	D,S	Casing, 218 ft of 4-in. Perforated from 198 to 218 ft. See log.
*A-39	Joe Pavliska	--	--	120	4½	Reklaw member	67.7	Oct. 21, 1954	N	N	
A-40	Howard Tom	--	--	204	3	Carrizo sand	131.6	Oct. 20, 1953	C,W	S	
*A-41	T. A. Spelman	Arthur Erdman	1953	210	4	do	--	--	C,E	D,S	Casing, 210 ft of 4-in. Screen from 180 to 210 ft.
*A-42	do	--	1907	47	24	Reklaw member	--	Oct. 21, 1954	Dry	N	Dug. Casing, 47 ft of 24-in. tile.
*A-43	Canada Verde School	--	--	53	24	Carrizo sand	49.5	do	J,E	P	Observation well.
A-44	Antonio Reya	--	--	--	24	do	21.2	Oct. 27, 1953	B,H	D	Bored.
A-45	Jim Garza	--	--	32	30	do	27.7	Oct. 20, 1953	C,W	D,S	Bored. Casing, tile.

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level: Below land-surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
*A-46	Joe Montoya	--	1934	28	24	Carrizo sand	25.9	Oct. 21, 1954	J,E	D	Dug. Casing, 24 ft of 24-in. tile.
*A-47	C. R. Moses	--	1920	48	30	do	42.0	Nov. 2, 1954	C,W	D,S	Dug. Casing, tile.
A-48	E. N. Reifel	--	1905	46	30	do	41.2	Oct. 20, 1953	J,E	D,S	Dug. Casing, 46 ft of 30-in.
A-49	C. A. Flores well 1	Jimmy Hillman	--	3,000	--	Wilcox group	--	--	--	N	Oil test. Lower part of well plugged.
A-50	Victor Seguin	--	Old	100	40	Carrizo sand	52.8	Oct. 20, 1953	C,W	D,S	Dug.
*A-51	C. A. Flores	Hardin & Guenther	1948	720	8, 5	Wilcox group	+	--	T,G, Flows	Irr	Oil test; plugged back to 720 ft. Casing, 720 ft perforated from 680 to 720 ft. Yield: 75 gpm. Temp. 81°F.
A-52	do	--	1875	70	40	Carrizo sand	41.5	Oct. 20, 1953	N	N	Dug. Rock-walled.
*A-53	do	Hardin & Guenther	1951	700	8, 5	Wilcox group	+	--	Flows	S	Oil test; plugged back to 700 ft. Casing, 700 ft.
*A-54	Graytown School	--	1940	50	5	Carrizo sand	--	--	C,E	P	Casing, 50 ft of 5-in.
A-55	G. A. Quintero	--	1950	45	30	do	31.7	Oct. 20, 1953	J,E	D,S	Bored. Casing, 45 ft of 30-in. tile.
A-56	Marineta Garcia	--	Old	45	30	do	26.0	do	B,H	D,S	Do.
A-57	Rafael Aldrete	--	Old	45	40	do	33.2	Oct. 27, 1953	J,E	D,S	Dug. Rock-walled.
A-58	Jessie M. Trevino well 1	Sid Katz	1951	2,841	--	--	--	--	--	--	Oil test. See log.
A-59	M. Augusta Rhodes well 1	O. Neathery, Jr.	1953	2,901	--	--	--	--	--	--	Do.
*A-60	Beckman Estate & Giles N. Hoover	--	--	Spring	--	Carrizo sand	+	Feb. 23, 1956	Flows	--	Yield estimated, 650 gpm.
*B-1	Joe Carlich	--	--	100	--	Wilcox group	35.5	Dec. 9, 1954	C,W	S	Dug.
*B-2	Herman Schroeder	--	1900	119	5	do	73.3	Dec. 6, 1954	C,W	D,S	
B-3	R. C. Fortune	--	1901	140	5	do	95.6	do	C,E	D,S	
*B-4	City of Lavernia	Geo. Guenther	1951	361	7	do	--	--	T,E, 10	--	Casing, 348 ft of 7-in.; perforated from 306 to 348 ft. Yield: 125 gpm. Temp. 78°F. See log.
*B-5	Lavernia Farmers Ginning Co	--	--	125	6	do	40.0	Apr. 29, 1955	C,-	N	
B-6	do	--	--	50	42	do	39.3	do	B,H, C,G	S,Ind	Dug.

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level: Below land-surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
*B-7	Mrs. H. A. Linn	--	1890	43	30	Wilcox group	41.3	May 2, 1955	J,E	D	Dug. Rock-walled.
*B-8	Johnny Grun	D & D Drilling Co.	1954	270	3	do	a/100.0	Oct. 1954	J,E	D,S	Casing, 270 ft of 3-in.; perforated from 250 to 270 ft.
B-9	Fritz Mueller	Turner Drilling Co.	1953	275	4	do	44.1	Oct. 4, 1954	J,E	D,S	Casing, 160 ft of 4-in. Well filled with gravel from 160 to 275 ft.
B-10	do	Adolph Hayes	1913	80	6	do	a/42	Oct. 1954	J,-	N	Casing, 80 ft of 6-in.
B-11	E. M. Talk	--	--	--	--	Carrizo sand	57.7	Dec. 6, 1954	C,W	D,S	Dug.
B-12	E. W. Mauney	Alec Lorenze	1939	180	6, 5	do	a/36.5	Sept. 1954	J,E, 15	D,S	Casing, 136 ft of 6-in.; 100 ft of 5-in. Yield reported 15 gpm.
B-13	do	-- Love	1945	210	5	do	39.0	Sept. 29, 1954	J,E	D,S	Casing, 200 ft of 5-in. Yield 10 gpm.
*B-14	A. W. Forester	Tom Moy	1954	110	6	do	+	Nov. 17, 1954	Cf,G, Flows	--	Casing, 110 ft of 6-in. Yield 175 gpm. Temp. 75.5°F.
*B-15	Wilson Co.	--	-- Spring		--	Alluvium	+	--	Flows	--	Yield 2 gph.
*B-16	A. W. Forester	Tom Moy	1954	318	5	Carrizo sand	5.8	Nov. 7, 1954	C,E, ½	D,S	Casing, 318 ft of 5-in. Yield 100 gpm. Altitude of land surface, 412.4 ft.
B-17	H. McClanahan	--	1916	135	3	do	61.4	Nov. 9, 1954	C,-	N	Observation well.
*B-18	J. M. Bond	--	1936	199	5	do	--	--	J,E, ½	P	
B-19	-- Tidwell	Fenner & Kolaya, et al	1952	2,660	--	--	--	--	--	--	Oil test.
*B-20	Pat Higgins	--	1902	1,600	8	--	+16.4	July 16, 1955	Flows	N	Casing, 1,600 ft of 8-in. Flows 75 gpm.
B-21	Sutherland School	Geo. Guenther	1950	218	5	Carrizo sand	--	--	--	S	Casing, 218 ft of 5-in.; perforated from 195 to 218 ft. See log.
*B-22	-- Rice	Tom Moy	1952	225	6	Carrizo sand (?)	+	June 9, 1955	Flows	D,S	Casing, 225 ft of 6-in. Flows 40 gpm.
B-23	A. W. Forester	do	1952	240	--	do	+	do	Flows	S	Casing, 225 ft. Flows 25 gpm.
*B-24	Scott R. Donaho	Geo. Guenther	1944	294	6-5/8, 4	Carrizo sand	a/76.0	May 1955	J,E	D,S	Casing, 167 ft of 6 5/8-in.; 134 ft of 4-in. Altitude of land surface 487.5 ft. See log.
B-25	do	do	1951	280	7, 4	do	a/78.0	May 1955	J,E	D,S	Casing, 161 ft of 7-in.; 126 ft of 4-in.; perforated from 257 to 279 ft. Altitude of land surface 489.3 ft. See log.

Table 6 - Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft)	Diameter of well (in.)	Water-bearing units	Water level: Below land-surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
*B-26	L. D. Peavy	--	1930	60	5	Queen City sand member	36.3	Nov. 24 1954	N	N	
*B-27	Hugh Carr	--	1920	70	3½	do	27.8	do	C,G	D,S	
*B-28	W. C. Gorham	--	--	700	10	Carrizo sand (?)	14.6	May 27, 1955	C,E	N	
B-29	Johnny Chuoke	--	--	1,050	6	Queen City sand member	+	June 8, 1955	Flows	Irr	Casing, 1,050 ft of 6-in. Flows 5 to 8 gpm
*B-30	H. G. Click	--	1915	80	3½	do	64.9	Dec. 2, 1954	C,E	D,S	
B-31	-- McDaniels well 1	G. R. Schimmel et al	1952	3,515	--	--	--	--	--	--	Oil test.
*B-32	Mrs. W. A. Montgomery	--	1905	35	30	Queen City sand member	23.0	Dec. 2, 1954	J,E	D,S	Dug.
*B-33	J. H. Spruce well 1	S. M. Messer	1949	3,247	--	--	--	--	--	--	Oil test.
*B-34	D. K. Bundrick	--	1928	94	4	Queen City sand member	64.3	Dec. 1, 1954	C,W	D,S	
*B-35	J. H. Riley	--	1900	120	5	do	--	--	J,E	D	
B-36	B. B. Hardy well 1	Sun Ray Oil Co.	1948	2,748	--	--	--	--	--	--	Oil test.
B-37	Ruth McCurdy Underhill well 4	do	1950	--	--	--	--	--	--	--	Do.
B-38	W. M. Donaho	Geo. Guenther	1954	1,005	10 8	Carrizo sand	a/90	Dec. 1954	T,G. 141	Irr	Casing, 996 ft; perforated from 775 to 996 ft. Yield, 1,200 gpm.
*B-39	J. L. Donaho	--	1915	200	3	Queen City sand member	--	--	C,E	D,S	
*B-40	T. E. Johnson	--	1930	125	4	do	92.8	Dec. 1, 1954	--	N	
*B-41	I. E. Brown Dairy	--	1911	135	3	do	--	--	C,E	D,S	
B-42	Allen Franklin	Allen Franklin	1954	635	8-5/8, 4	Carrizo sand	129 8	June 7, 1955	N	N	Casing, 200 ft of 8 5/8-in.; 335 ft of 4-in. Drawdown 64 ft while pumping 450 gpm. Altitude of land surface 543 0 ft.
B-43	Weston H. Leighs	--	--	168	5	Queen City sand member	--	--	C,E,W	D,S	
B-44	Robert A. Collins	-- Newman	1954	760	7	Carrizo sand	154.2	Dec 1, 1954	N	N	Casing, 740 ft of 8-in. Drawdown 20.5 ft while pumping 125 gpm Altitude of land surface 565.0 ft
*B-45	Carol Talley	--	1913	175	6	Queen City sand member	--	--	C,E	D,S	
*B-46	Millard C. Long	--	1919	132	4	do	98.3	Nov 16, 1954	C -	N	
B-47	Mike Lopez well 1	Pegg Bros and -- Bode	1949	2,756	--	--	--	--	--	--	Oil test

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level		Method of lift	Use of water	Remarks
							Below land-surface datum (ft.)	Date of measurement			
*B-48	C. E. Marsh	--	--	100	24	Queen City sand member	72.3	Nov. 16, 1954	C,W	S	Dug. Casing, 24-in., tile to 100 ft.
B-49	I. D. Casey	Geo. Guenther	1955	464	12	Carrizo sand	90.0	June 7, 1955	T,E	Irr	Casing, 464 ft of 12-in. Perforated from 344 to 364 ft.
B-50	R. J. Huebinger well 1	Gasoline Production Corp.	1953	1,763	--	--	--	--	--	--	Oil test. See log.
B-51	T. S. Riley well 1	Forney, Winn & Texita Oil Co.	1952	2,550	--	--	--	--	--	--	Do.
B-52	Martin Vorpahl	Gasoline Production Corp. & Patterson Drilling Co.	1956	2,641	--	--	--	--	--	--	Oil test.
B-53	H. Mills well 1	W. M. Hauser	1956	2,570	--	--	--	--	--	--	Do.
B-54	H. Mills well 2	do	1956	2,562	--	--	--	--	--	--	Do.
B-55	L. H. Mills well 1	Joe Bailey Oil Co.	1956	2,467	--	--	--	--	--	--	Do.
B-56	Nichelson well 3	P. & H. Drilling Co.	1956	1,750	--	--	--	--	--	--	Do.
B-57	A. G. Matthews	Fred Nicholson et al	1955	1,752	--	--	--	--	--	--	Do.
*C-1	J. Neyland	--	--	140	6	Carrizo sand	128.2	June 20, 1955	C,E	D,S	Casing, 140 ft of 6-in. Altitude of land surface, 567.7 ft. Temp. 73½°F.
*C-2	H. S. Hastings	--	1929	68	6	Reklaw member	50.5	Sept 28, 1954	C,W	D,S	Casing, 68 ft of 6-in.
*C-3	Stokley Jackson	--	1913	108	5½	do	98.9	Dec. 27, 1954	C,W	D,S	
C-4	J. H. Bain, Jr. well 1	Sun Oil Co.	1954	4,600	--	--	--	--	--	--	Oil test.
*C-5	R. C. Elkins	--	--	52	72	Queen City sand member	46.3	Oct. 27, 1954	B,H	D	Dug. Rock-walled.
*C-6	Union Valley Baptist Church	--	1911	24	36	do	19.5	Nov. 22, 1954	C,H	N	Dug.
*C-7	H. O. Wiley	--	1901	26	36	do	19.9	do	C,W	D,S	Do.
*C-8	J. M Spear	--	1894	26	36	do	14.3	do	N	N	Dug. Rock-walled.
*C-9	Claud Chessler	--	1894	85	60	do	57.3	Nov. 15, 1954	C,W	D,S	Dug.
C-10	H. O. Wiley well 1	J. B. Blanchard Co	1954	1,688	--	--	--	--	--	--	Oil test.
C-11	R. L. Rice well 1	Texas Southern Oil & Gas Co.	1954	2,876	--	--	--	--	--	--	Do.
*C-12	Audrey G. Watkins	Tom Moy	1954	525	8	Carrizo sand	54.0	June 7, 1955	T,G	Irr	Casing, 525 ft of 8-in. Perforated from 485 to 525 ft. Yield 350 to 400 gpm. Drawdown 100 ft. Altitude of land surface, 471.9 ft. Temp. 77°F

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level: Below land-surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
*C-13	W. P. Smithey	--	1922	65	5½	Reklaw member	43.5	Nov. 9, 1954	C,E	D	
*C-14	S. E. Jones	--	1884	114	48	Queen City sand member	112.0	do	C,E. ½	D	Dug. Rock-walled.
C-15	J. G Cone well 1	Eddy, Vaughn & McSwane	1952	5,252	--	--	--	--	--	--	Oil test.
*C-16	E. O. Henry	--	1884	44	36	Queen City sand member	37.4	Nov. 19, 1954	B,H	D,S	Dug. Rock-walled.
*C-17	E. R. Moore	--	1920	71	4¾	do	48 0	Jan 7, 1955	C,W	D,S	
*C-18	King Estate	--	--	800	4	Carrizo sand (?)	10.1	May 17, 1955	N	N	Altitude of land surface 402.2 ft.
C-19	L. C. Carr	--	1915	375	6	Queen City sand member	18.9	May 27, 1955	N	N	Estimated to produce 1 barrel of crude oil per month.
*C-20	do	--	1910	700	6	Carrizo sand	+2.0	do	J,E	D,S	
C-21	W. E Harding well 1	Leferidge, Bilbo & Reddinge	1952	2,841	--	--	--	--	--	--	Oil test. See log
*C-22	Bob Hardin	--	1916	1,600	8	Carrizo sand & Wilcox group (?)	+	May 27, 1955	Flows	S	Oil test. Flows 30 gpm. Temp. 82½°F
C-23	A. T. Hardin well 1	B & G Well Service Co.	1952	2,914	--	--	--	--	--	--	Oil test.
*C-24	City of Stockdale well 1	Kelly Construction Co.	1935	315	8, 6	Queen City sand member	--	--	T,E, 15	P	Casing, 216 ft of 8-in.; 106 ft of 6-in. Perforated from 222 ft to 254 ft, and 283 ft to 315 ft. Yield, 120 gpm. Temp. 77°F. See log.
*C-25	City of Stockdale well 2	A. R. Thierry	1952	460	8-5/8	do	--	--	T,E, 25	P	Casing, 460 ft of 8 5/8-in. Perforated from 330 to 460 ft. Plugged back from 600 ft. Temp. 80°F. See log.
C-26	H. C. Stroud well 1	Sutton Drilling Co.	1954	2,861	--	--	--	--	--	--	Oil test.
C-27	Jim West well 1	do	1952	3,004	--	--	--	--	--	--	Do
C-28	J P. Lorenz-West well 3	Apell Oil & Gas Corp.	1954	3,052	--	--	---	--	--	--	Do.
C-29	J. P. Lorenze well 1A	A. W. Phillips	1950	3,112	--	--	--	--	--	--	Do.
*C-30	Lilly Grove School	--	1931	70	5	Sparta sand	--	--	C,E	D,S	
*C-31	T. F Crisp	--	1911	250	4	Queen City sand member	81.5	Jan 4, 1955	C,W	D,S	
*C-32	Hugo Sanders	--	1936	151	4	Sparta sand	--	--	C,E	D,S	
C-33	Tom Manford well 1	Southern Minerals Corp.	1953	4,606	--	--	--	--	--	--	Oil test.

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level		Method of lift	Use of water	Remarks
							Below land-surface datum (ft.)	Date of measurement			
C-34	Andrew Korus	--	1944	210	--	Rekiaw member	76.5	July 16, 1955	C,W	D,S	
*C-35	T. E. Roberson	--	1900	600	4	Queen City sand member	61.8	June 3, 1955	N	N	
*C-36	E. D. Moczygemba	--	1936	162	4	Sparta sand	77.9	Mar. 23, 1955	C,W	S	
*C-37	J. M. Hawk	--	1912	140	4	do	42.4	Mar. 25, 1955	C,E	D,S	
*C-38	Dee Martin	--	1915	71	36	do	44.6	Mar. 23, 1955	J,E	D,S	Dug. Rock-walled.
*C-39	T. W. Sutherland	--	1934	100	4	Queen City sand member	63.7	Dec. 2, 1954	C,W	D,S	
*C-40	Henry Zimmerman	--	1905	72	5	do	47.3	do	C,W	D,S	Bored
C-41	Alex Forshage well 1	Turner Drilling Co.	1955	2,552	--	--	--	--	--	--	Oil test.
C-42	-- Manford	A. R. Thierry	1944	1,700	30, 5½	Carrizo sand	35.0	July 16, 1955	N	N	Dug to 90 ft. Casing, 90 ft of concrete pipe; 1,610 ft of 5½-in. Perforated from 1,580 to 1,700 ft.
*C-43	Julious W. Loessin	--	1948	263	5	Queen City sand member	27.5	do	J,E	D,S	Casing, 263 ft of 5-in.
C-44	Karon Smith	Jergins of Texas Ltd.	1955	2,400	--	--	--	--	--	--	Oil test.
D-1	G. W. Ezell	--	1915	720	3	Queen City sand member	19.5	Jan. 4, 1955	C,W	D,S	
*D-2	Manford Estate	--	--	1,735	--	Carrizo sand	+	--	Flows	S	Flows 150 gpm. Temp. 101°F.
D-3	H. H. Weinert well 1	H. H. Howell	1953	4,708	--	--	--	--	--	--	Oil test.
*D-4	do	--	1910	800	10	Queen City sand member	+	May 9, 1955	Flows	S	
D-5	do	--	1935	1,710	12, 4	Carrizo sand	+10.0	June 7, 1955	Flows	S	Casing, 1,710 ft. Perforated from 1,660 to 1,710 ft. Flows 8 gpm. Altitude of land surface 373.6 ft. Temp. 95°F.
D-6	do	--	1935	1,710	12, 4	do	+16.0	do	Flows	S	Casing, 1,710 ft. Perforated from 1,660 to 1,710 ft. Flows 60 gpm. Altitude of land surface 369.3 ft. Temp. 101°F.
D-7	do	--	Old	--	--	--	+	do	Flows	--	
D-8	J. C. Peebles well 1	Midwest Oil Corp.	1953	4,639	--	--	--	--	--	--	Oil test.
*D-9	A. V. McGlothing	A. V. McGlothing	1937	60	36	Yegua formation	43.5	May 9, 1955	C,W	D	Dug. Brick-walled.

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level: Below land-surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
D-10	G. N. Evans well 1A	H. H. Howell	1952	4,619	--	--	--	--	--	--	Oil test.
*D-11	J. D. Houston	--	--	520	4	--	--	--	C,W	S	
E-1	J. P. Gonzales	--	1899	114	48	Reklaw member	105.4	Oct. 19, 1953	C,W	D	Dug. Rock-walled.
E-2	Travis E. Longley well 1	Hankamer Investment Co.	1953	4,603	--	--	--	--	--	--	Oil test.
E-3	Tom Wright	Geo. Guenther	1952	364	5	Carrizo sand	120.9	Oct. 16, 1953	N	N	Altitude of land surface, 562.2 ft.
E-4	Jack Bruce	-- Swartz	1943	200	--	Queen City sand member	152.9	do	C,W	D,S	Cased to bottom.
*E-5	Mrs. Jewel Westerman	--	1894	90	60	do	84.8	Oct. 28 1954	C,W	D	Dug. Rock-walled.
E-6	Severiano Tejeda	--	1944	174	4	Reklaw member	90.3	Oct. 16, 1953	C,W	D	Casing, 100 ft of 4-in.
E-7	E. Bednaze	--	--	181	--	do	80.0	Oct. 20, 1954	C,W,E, ½	D,S	
E-8	J. F. Allen	-- Rislee	1948	220	4	Queen City sand member	177.0	Oct. 16, 1953	C,W	D,S	
*E-9	J. H. Parrish	--	1926	145	4	do	134.8	Oct. 20, 1954	N	N	
*E-10	I. B. and Carl E. Ray	Red Boone	1954	700	10.7	Carrizo sand	--	--	T,G	Irr	Casing, 300 ft of 10-in., 400 ft of 7-in. Perforated from 500 to 700 ft. Yield: 600 gpm. Altitude of land surface, 598.07 ft.
*E-11	L. B. Wright	John Hearne	1910	148	4	Queen City sand member	140.0	Oct. 16, 1953	C,W	D,S	Casing, 148 ft of 4-in.
E-12	Mrs. A. Wright	--	Old	125	7	do	120.5	Oct. 15, 1953	C,W	D	Casing, 5 ft of 7-in.
E-13	R. Vasquez	Jim Hagen	1944	145	7.4	do	86.4	do	C,W	D,S	Casing, 114 ft of 7-in.; 20 ft of 4-in.
*E-14	J. M. Hayden	--	1931	104	4	do	70.7	May 3, 1955	C,W,E	D,S	
*F-1	H. W. Tobias	-- Palacious	1948	110	6	Reklaw member	--	--	J,E	D	Casing, 100 ft of 6-in. Yield: 14 gpm.
*F-2	Tom Wright	--	1894	110	40	Queen City sand member(?)	101.4	Oct. 16, 1953	C,W	D,S	Dug. Rock-walled to 20 ft.
F-3	--	--	--	46	24	do	38.9	Nov. 5, 1953	N	N	Bored. Casing 24-in. tile to 40 ft.
*F-4	Ed L. Biesenbach	--	--	100	4	do	52.7	do	C,G	D,S	Casing, 100 ft of 4-in.
*F-5	W. H. Tanneberger	--	1930	180	4	do	144.8	Mar. 11 1954	C,W	S	
*F-6	Fairview School	Geo. Guenther	1954	390	7	do	--	--	J,E	P	Casing, 390 ft of 7-in. Perforated from 327 to 390 ft. Plugged back from 533 ft. See log

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level		Method of lift	Use of water	Remarks
							Below land-surface datum (ft.)	Date of measurement			
*F-7	Fairview School	Geo. Guenther	1953	258	4	Queen City sand member (?)	--	--	C,E	--	Casing, 204 ft of 4-in. Perforated from 204 to 258 ft. Well abandoned. See log.
F-8	D. A. McKenzie well 1	Gorman-DeLange, et al	1952	5,209	--	--	--	--	--	--	Oil test.
F-9	-- McKenzie	--	--	128	7	Queen City sand member	Dry	Nov. 5, 1953	C,W	N	
*F-10	John B. Connally	T. McKinnely	1955	983	12 10	Carrizo sand	107.5	May 3 1955	T,G 75	Irr	Casing 240 ft of 12-in. 740 ft of 10-in. Perforated from 677 to 980 ft. Altitude of land surface 515.5 ft. Yield 1,000 to 1,500 gpm. Drawdown 31 ft after 13-hours pumping 1,800 gpm. Temp. 87°F.
*F-11	D. H. Woodley	--	1929	150	3½	Queen City sand member	57.0	Nov. 3 1954	N	N	
*F-12	F. J. Pelech	F. J. Pelech	1921	127	5	do	116.0	Nov. 5, 1953	C,W	D,S	Casing, 80 ft of 5-in.
*F-13	Picosa School	Geo. Guenther	1946	152	--	do	80.2	Nov. 3, 1954	C,W	P	See log
*F-14	P. Martinez	--	1926	87	5	do	76.7	do	C,W	D,S	
F-15	Joe Morain	--	--	110	24	do	107.8	Nov. 5 1953	C,W	D,S	Bored. Casing 24-in. tile to 110 ft.
*F-16	John Krajei	--	1896	132	4	do	107.1	Oct. 19, 1954	C,W	D,S	
*F-17	Almo Hartmann	--	1932	128	4, 3	do	94.7	do	C,W	D,S	
*F-18	E. Talamantes	--	--	200	4	do	71.2.	Nov. 5 1953	C,W	D,S	
*F-19	-- Wright	-- Barber	--	808	4	Carrizo sand	--	--	C,E	D,S	Casing, 808 ft of 4-in. Perforated from 788 to 808 ft.
F-20	Nick Kolenda	--	--	105	4	Queen City sand member	59.0	Oct. 28, 1953	C,W,E	D,S	
*F-21	H. P. Tipton	John Barber	1947	950	6	Carrizo sand	31.4	Nov. 12, 1954	J,E	D,S	Casing, 878 ft of 6-in. Yield: 50 gpm. Altitude of land surface, 426.5 ft.
*F-22	Mrs. T. B. Carpenter	--	--	90	6	Queen City sand member	--	--	C,W	S	
*F-23	R. A. Wiseman	--	1911	600	6	Carrizo sand	+	Nov. 12, 1954	Flows	--	Flows 75 gpm.
F-24	W. P. Bishop	-- Brown	Old	800	4	do	+18.3	Feb. 15, 1955	Flows	Irr	Flows 120 gpm.
*F-25	do	do	Old	600	4	do	+25.1	do	Flows	D	Trace of petroleum
F-26	L. J. Norcross	Earl Statler	1930	58	4	Queen City sand member	39.2	do	C,W	D,S	Casing 58 ft of 4-in.

Table 6 - Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level		Method of lift	Use of water	Remarks
							Below land-surface datum (ft.)	Date of measurement			
*F-27	R. Johnson	C C Hoover	1945	875	8 5	Carrizo sand	+	Nov. 10, 1954	Flows	S, Irr	Casing, 125 ft of 8-in., 750 ft of 5-in. Perforated from 795 to 875 ft. Flows 200 gpm. Temp. 92°F.
F-28	J. L. Dennis well 1	L & N Oil Co.	1954	564	--	--	--	--	--	--	Oil test.
*F-29	J. F. Schroeder	--	1912	90	3½	Queen City sand member	38.3	Sept 29, 1954	J,E	D,S	Casing, 90 ft of 3½-in.
*F-30	Joe Estrada	--	--	50	40	do	49.3	Nov. 10, 1954	C,W	S	Dug.
F-31	H. C. Woods well 1	Henshaw Bros.	1948	3,912	--	--	--	--	--	--	Oil test.
*F-32	S. W. Seale	--	1921	175	4	Queen City sand member	60.4	Nov. 17, 1954	C,W	D,S	
*F-33	Mrs. Chas. Boening	--	1912	126	4	Sparta sand	48.2	Dec. 9, 1954	C,W	D,S	
*F-34	L. E. Ziegler	--	1916	106	4	Queen City sand member	83.8	do	C,W	S	
F-35	M. M. Riley	--	--	122	4	do	94.3	Nov. 2, 1954	C,W	D,S	
F-36	T. S. Riley	--	1955	1,221	7, 4	Carrizo sand	62.9	Feb. 16, 1955	T,E	Irr	Casing, 306 ft of 7-in., 915 ft of 4-in. Drawdown, 30 ft after pumping 225 gpm. Altitude of land surface, 471.0 ft. Temp. 97°F.
F-37	Julius Ewing well 1	Henshaw Bros.	1948	6,487	--	--	--	--	--	--	Oil test.
*F-38	Joe Pennartz	--	1916	98	4	Queen City sand member	74.5	Nov. 11, 1954	C,W	D,S	
*F-39	C. B. Watson	C. C. Hoover	1945	980	4	Carrizo sand	47.0	do	J,E	D,S	Casing, 980 ft of 4-in. Perforated from 920 to 980 ft.
*F-40	C. C. Hoover	do	1945	870	8	do	1.6	Nov. 10, 1954	C,G	S	Casing, 154 ft of 8-in. Drawdown, 8 ft after pumping 20 gpm for 2½-hours. Temp. 80.5°F.
*F-41	C. B. Watson	--	--	600	4	do	+	Nov. 11, 1954	Flows	S	Flows 5 gpm.
F-42	-- Watson well 1	Wise, McCabe, & O. W. Killam	1953	5,417	--	--	--	--	--	--	Oil test.
*F-43	C. B. Watson	Slim Wise	--	800	4	Carrizo sand	+20.5	Nov. 11, 1954	Flows	S	Casing, 800 ft of 4-in. Perforated from 760 to 800 ft. Flows 300 gpm. Temp. 92°F.
*F-44	J. B. Connally	--	--	84	4	Queen City sand member	--	--	C,E	D,S	
*F-45	J. Marek	--	1902	108	5	do	46.4	Sept. 29, 1954	C,W,E, ½	D,S	

Table 6 - Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level: Below land-surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
*F-46	J. B. Connally	--	1908	860	6	Carrizo sand	+	Nov. 10, 1954	Flows	S	Flows 25 gpm. Temp. 89°F.
F-47	E. A. Fieller	Red Boone	1952	1,210	8	do	a/28.0	May 1952	T,-	Irr	Casing, 1,050 ft of 8-in. Screen from 1,050 to 1,210 ft.
*F-48	-- Escherberg and Joe Klasek	--	--	93	5½	Sparta sand	81.0	Dec. 10, 1954	C,W	D,S	
*F-49	J. T. Sheehy	--	1930	183	4	Queen City sand member	96.7	do	C,W	D,S	
F-50	L. N. Mitchell well 1	Rowan, Hope, and E. W. McGill	1952	5,738	--	--	--	--	--	--	Oil test.
*F-51	Victor Sralla	--	1915	70	3½	Queen City sand member	52.9	Sept. 30, 1954	C,W	D,S	Casing: 70 ft of 3½-in.
*F-52	Felix Janek	--	1915	146	--	do	95.7	Nov 11, 1954	C,W	S	
F-53	Stanley Bench well 1	M. L. Wise and O. W. Killam	1954	5,670	--	--	--	--	--	--	Oil test.
F-54	J. F. Schroeder	--	--	180	3½	Queen City sand member	123.0	Nov 3, 1954	C,W	N	Casing, 180 ft of 3½-in.
*F-55	R. A. Popham	E. E. Swierce	1955	1,104	10¾, 7	Carrizo sand	94 3	May 10, 1955	T,E, 125	Irr	Casing 225 ft of 10¾-in.; 880 ft of 7-in. Perforated from 950 to 1,104 ft. Drawdown, 110+ ft after pumping 1,095 gpm. Temp. 88°F.
*F-56	Eugene Popham	--	1901	84	48	Queen City sand member	--	--	C,E, 1½	D,S	Dug. Yield: 15 gpm.
F-57	Kate Higgins well 2	M. L. Wise, et al	1951	6,004	--	--	---	--	--	--	Oil test.
F-58	W. C. Hasse	--	1935	38	4	Sparta sand	20.0	Dec. 10, 1954	N	N	Caved in.
*F-59	do	--	--	860	6	Queen City sand member	--	--	C,G	S	
F-60	Clifford Hierholzer	Frank Neth	1954	1,600	10, 7	Carrizo sand	a/24.0	Jan 1955	T,-	Irr	Casing, 250 ft of 10-in.; 1,346 ft of 7-in.
*F-61	O. J. Hierholzer	--	--	95	6	Sparta sand	54.0	Dec. 10, 1955	N	N	
F-62	Alton Hierholzer	Red Boone	1955	1,600	--	Carrizo sand	--	--	--	Irr	Casing, 1,592 ft.
*F-63	William Huble	--	1926	150	4	Sparta sand	17.8	Jan. 5, 1955	N	N	
*F-64	J. W. Hierholzer	George Brown	--	420	4	Queen City sand member	+	do	Flows	S	Yield: 1 to 1½ gpm. Temp. 77°F.
*F-65	Schmalstieg Bros.	Wise Drilling Co.	1953	1,600	12, 8	Carrizo sand	30.8	May 26, 1955	T,G	Irr	Casing, 261 ft of 12-in.; 1,339 ft of 8-in. Perforated from 1,460 to 1,600 ft. Drawdown, 38 ft after 4-hours pumping 1,600 gpm. Altitude of land surface, 436.9 ft. Temp. 101°F.

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level: Below land-surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
F-66	Hal V. Warren well 1	Siznod Oil Co.	1953	6,164	--	--	--	--	--	--	Oil test.
F-67	Stevens School	Geo. Guenther	1949	103	--	Sparta sand	--	--	--	P	See log.
*F-68	V. Lichnovsky	--	--	100	4	do	--	--	C,W	N	
*F-69	-- Escherberg	--	1925	466	6	do	--	--	J,E	D,S	
F-70	Charlie F. Fuller well 1	J. C. McCabe	1953	1,830	--	--	--	--	--	--	Oil test.
*F-71	Ed Barthold	--	1915	435	4	Sparta sand	a/80	Jan. 1955	C,W	D,S	
*F-72	Mrs J. E. Dewess	A. R. Thierry	1946	2,225	8, 6-5/8	Carrizo sand	a/28.0	Jan. 1955	T,G	Irr	Casing, 40 ft of 8-in. 2,185 ft of 6 5/8-in. Perforated from 2,105 to 2,225 ft. Yield: 300 gpm. Temp. 111°F.
*F-73	-- Escherberg	--	1935	180	4, 3	Yegua formation	--	--	C,E	D,S, Ind	Casing, 120 ft of 4-in.; 60 ft of 3-in.
*F-74	J. A. Richardson Estate	--	1915	202	6	do	120.3	Jan. 6, 1955	C,W	D,S	
F-75	H. P. Thulemeyer	A.A.A. Drilling Co.	1955	--	10, 8	Carrizo sand	+	--	Flows	Irr	Casing, 100 ft of 10-in.; well being drilled, July 15, 1955.
F-76	W. C. Hasse well 1	Edgar & Slator	1955	1,097	--	--	--	--	--	--	Oil test.
F-77	Brundrich well 1	D. O. Wade	1955	1,105	--	--	--	--	--	--	Do.
G-1	Alvin Jung well 2	Texas Southern Oil & Gas Co.	1954	2,869	--	--	--	--	--	--	Do.
*G-2	City of Floresville well 2	Layne-Texas Co.	1950	960	10	Carrizo sand	+13.0	Feb. 16, 1955	T,E, 40 Flows	P	Casing, 800 ft of 10-in Screen from 800 to 960 ft. Yield: 1,000 gpm. Flows 180 gpm. Altitude of land surface, 393.9 ft. Temp. 91°F.
*G-3	City of Floresville well 1	do	1925	826	8	do	+	do	T,E, Flows	P	Casing, 803 ft of 8-in. Screen from 803 to 826 ft. Yield: 410 gpm. Flows 35 gpm. Temp. 91°F
*G-4	Troy E. Talley	--	--	95	4	Queen City sand member	67.9	Nov. 17, 1954	N	N	
*G-5	R. C. Lang	--	1912	500	6	do	+	Dec. 3, 1954	--	N	Flows 15 gpm. Temp. 84°F.
G-6	Floresville Ice Plant	Geo. Guenther	1946	332	10, 7	do	34.3	Nov. 17, 1954	J,E	N	Casing, 164 ft of 10-in.; 183 ft of 7-in. See log.
*G-7	S. P. Popham	--	1920	70	4	do	--	--	J,E	D,S Irr	
*G-8	Mrs. Henry Wehman	--	1915	160	4½	do	90.0	Dec. 3, 1954	C,E	D,S	
*G-9	Roy Maddox	--	1886	46	--	do	40.2	Nov. 23, 1954	C,W	D,S	Dug. Rock-walled

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft)	Diameter of well (in.)	Water-bearing units	Water level: Below land-surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
G-10	C. E. Hart well 1A	W. C. McBride Inc.	1948	591	--	--	--	--	--	--	Oil test.
*G-11	Nicolas George	--	1924	168	3½	Queen City sand member	--	--	C,E	D,S	
G-12	L. C. George well 1	Hunt Oil Co.	1951	5,855	--	--	--	--	--	--	Oil test.
*G-13	Ed Harper	--	--	120	4½	Queen City sand member	--	--	C,E, l	D,S	
*G-14	Mrs. H. R. Reagan	--	1915	107	3½	do	75.7	Nov. 23, 1954	C,W	D,S	
*G-15	L. G. Arnold	A. E. McKenzie	1954	1,121	8 6	Carrizo sand	a/33.0	Mar. 1955	T,G 50	Irr	Casing, 495 ft of 8-in., 626 ft of 6-in. Perforated from 1,021 to 1,127 ft. Yield: 700 gpm. Altitude of land surface, 443.6 ft. Temp. 96°F.
*G-16	D. L. Bundrick	--	1906	120	4	Queen City sand member	93.3	Nov. 30, 1954	N	N	
*G-17	Mrs. Annie Harper	--	1913	117	5	do	69.6	Dec. 1, 1954	C,W	D,S	
*G-18	do	--	1880	55	30	do	45.9	do	C,W	D,S	Dug. Rock-walled.
*G-19	A. Rideout	--	1920	62	5	do	22.5	Dec. 2, 1954	C,W	D,S	
G-20	Phaddeus Kopecki well 1	C. Andrade III	1947	6,354	--	--	--	--	--	--	Oil test.
*G-21	Philip Mutz	--	1901	79	48	Sparta sand	52.9	Dec. 3, 1954	C,W	D,S	Dug. Rock-walled.
*G-22	Rex Reed	--	--	96	4½	do	--	--	C,W	D,S	Yield 5 gpm.
G-23	Joe Keller well 1	Sutton Drilling Co.	1954	4,230	--	--	--	--	--	--	Oil test.
*G-24	Chester Kopecki	--	--	100	5	Yegua formation	81.7	Mar. 23, 1955	C,W	D,S	
*G-25	Bennie Treybig	--	1922	488	6	Sparta sand	a/65	Mar. 1955	C,W	D,S	
*G-26	Joe Devora	--	1928	150	4	Cook Mountain formation	53.3	Mar. 23, 1955	C,W	S	
*G-27	O. A. Niestroy	--	--	39	36	do	31.9	do	C,W	S	Dug.
*G-28	J. H. McDaniel	--	1936	43	30	Yegua formation	36.2	Jan. 7, 1955	N	N	Dug. Rock-walled.
G-29	J. H. McDaniel well 1	Frank J. Gravis	1949	5,200	--	--	--	--	--	--	Oil test.
*G-30	William Budenig	--	1915	98	4	Yegua formation	65.4	Mar. 22, 1955	C,W	D,S	
*G-31	A. J. Kolther	--	1920	82	6	do	a/42.0	Mar. 1955	C,E	D,S	
G-32	G. D. Dunn	Geo. Guenther	--	200	4	do	--	--	C,E	D,S	Casing, 200 ft of 4-in. Perforated from 178 to 200 ft. See log.

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level: Below land-surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
*G-33	City of Poth well 3	Layne-Texas Co.	1951	2,010	12	Carrizo sand	+10.0	June 9, 1954	T,E. Flows	P	Casing, 2,000 ft of 12-in. Perforated from 1,800 to 2,000 ft. Yield 500 gpm. Flows 200 gpm Temp 117°F.
*G-34	City of Poth well 2	do	1936	2,032	7, 4½	do	a/+12.0	Sept. 1954	Cf,E. Flows	P	Casing, 1,779 ft of 7-in., 274 ft of 4½-in Altitude of land surface, 401.4 ft. Temp. 115°F.
*G-35	Erwin Hoefelmeyer	--	1910	127	--	Yegua formation	115.0	Jan. 5, 1955	C,W	D,S	
*G-36	A. F. Rotter	--	--	390	6	Sparta sand	106.4	Mar. 23, 1955	C,W	S	
*G-37	A. R. Becker	--	1926	526	4	do	85.9	Mar. 22, 1955	C,W	D,S, Irr	Casing, 476 ft of 4-in Perforated from 436 to 476 ft.
*G-38	William Kosarek	--	1930	347	5	do	+	Jan. 4, 1954	Flows	S	Flows 15 gpm Temp 81°F.
*G-39	Ed Jiral	--	1927	205	4	Cook Mountain formation	57.1	Jan. 5, 1955	C,W	S	
*G-40	William Eckel	--	--	130	4	Yegua formation	54.8	do	C,W,G	S	
*G-41	Clyde Fahrentold	H. J. Messers	1952	2,400	10, 7	Carrizo sand	+64.4	Jan. 6, 1955	Flows	Irr	Casing, 1,200 ft of 10-in., 2,400 ft of 7-in. Flows 400 to 500 gpm. Altitude of land surface, 346.1 ft. Temp. 120°F.
*G-42	J. H. Johnson	--	--	135	4	Yegua formation	109.2	do	C,W,G	S	
*G-43	Charles Warnken, Jr.	J. E. Hillier	1955	2,508	10¾, 8 5/8, 6 5/8	Carrizo sand	+ 8.8	June 24, 1955	Cf,E, Flows	Irr	Casing, 238 ft of 10¾-in., 1,640 ft of 8 5/8-in., 630 ft of 6 5/8-in. Perforated from 2,268 to 2,508 ft. Flows 100 gpm. Test pumped 1,040 gpm, normally pumped 300 gpm. Temp. 118°F.
*G-44	F. H. Humphries	--	--	120	5	Yegua formation	61.2	Mar. 25, 1955	C,W	S	
*G-45	Ben L. Moczygemba	Geo. Guenther	1936	130	6, 4	do	88.5	May 19, 1955	N	N	See log.
*G-46	Stanek Sprencel	--	--	225	4	do	--	--	C,W	S	
*G-47	O. D. Compton	B. L. Newman	1952	400	8	Queen City sand member	113.2	June 22, 1955	--	Irr	Casing, 212 ft of 8-in. Yield, 800 gpm.
*G-48	Geo. Guenther	Geo. Guenther	1951	215	7, 4	Yegua formation	--	--	--	D	Casing, 202 ft of 7-in., 34 ft of 4-in. Perforated from 195 to 215 ft. See log.
*H-1	Manford Estate	--	--	2,250	10	Carrizo sand	+32.7	June 3, 1955	Flows	S	Yield 75 gpm Altitude of land surface, 365.5 ft. Temp. 115°F.
*H-2	Eddie Jarzombek	Arthur Erdman	1940	176	4	Yegua formation	124.8	May 6, 1955	C,W	D,S	

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level: Below land-surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
*H-3	Aaron Sells	Arthur Erdman	1953	164	4	Yegua formation	55.0	May 6, 1955	C,H	N	Casing, 164 ft of 4-in. Perforated from 144 to 164 ft. Contains trace of petroleum.
H-4	Joe Kopecki	--	1935	130	4	Cook Mountain formation	89.7	do	C,W	S	
*H-5	F. C. Oltmans	--	1923	364	5	Sparta sand (?)	67.5	June 3, 1955	C,W	D,S	
*H-6	Henry Bohman	--	1916	145	4	Cook Mountain formation	--	--	C,W	S	
H-7	Edmond Lyssy well 1	Humble Oil & Refining Co.	1952	4,676	--	--	--	--	--	--	Oil test. See log
*H-8	R. C. Teas	--	--	1,000	4	Queen City sand member	+	Mar. 23, 1955	Flows	S	Yield 15 gpm
*H-9	A. Keller	--	1921	536	5	Sparta sand	53.0	Jan. 7, 1955	C,W	S	
*H-10	Alois Kollodzeij	--	1932	110	4	Yegua formation	35.7	do	C,W	D,S	
*H-11	Koscuisko School	Tom Moy	1937	140	6	do	39.5	July 14, 1955	C,E	P	Casing, 140 ft of 6-in. Perforated from 120 to 140 ft.
*H-12	Farmers Gin Co.	--	1936	60	5	do	--	--	C,-	Ind	
H-13	Constant Jarzombek well 1	F. B. Cochran, Jr.	1953	5,174	--	--	--	--	--	--	Oil test.
*H-14	John E. Muntz	--	1923	125	4	Yegua formation	61.8	May 19, 1955	C,W	S	
H-15	C. Katara well 1	L. B. Horn	1949	2,699	--	--	--	--	--	--	Oil test.
*H-16	Pulaski School	Tom Moy	1948	400	4	Yegua formation	--	--	C,E	P	Casing, 400 ft of 4-in. Perforated from 380 to 400 ft.
*J-1	Hugo Pundt	Boone & Armond	1946	677	7	Sparta sand	13.7	Mar. 22, 1955	C,W	D,S, Irr	Casing, 675 ft of 7-in. Perforated from 615 to 675 ft.
*J-2	Riley Cooper	Joe Palacio	1925	125	4	Yegua formation	86.9	Jan. 6, 1955	C,W	D,S	
*J-3	Earl Bryan	L. M. Wise	1953	2,022	10¾, 7	Carrizo sand	a/+	1954	Cf,E, 5, Flows	S,Irr	Casing, 93 ft of 10¾-in., 2,022 ft of 7-in. Flows 75 gpm
J-4	J. T. Harris	A. R. Thiem	1954	2,440	7, 4	do	+21.3	Feb. 22, 1955	C,E	S,Irr	Casing, 250 ft of 7-in., 2,190 ft of 4-in. Perforated from 2,300 to 2,440 ft. Yield, 175 gpm. Altitude of land surface, 291.0 ft
J-5	do	do	1946	2,500	10 7	do	+28.3	do	Flows	D,S, Irr	Casing, 200 ft of 10-in., 2,300 ft of 7-in. Perforated from 2,300 to 2,500 ft

Table 6.- Records of wells and springs in Wilson County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing units	Water level		Method of lift	Use of water	Remarks
							Below land-surface datum (ft.)	Date of measurement			
*J-6	Speer Ranch	--	--	760	4	Sparta sand	31.0	Jan. 7, 1955	N	N	
*J-7	William Koening	--	1915	135	4	Yegua formation	74.4	do	C W	D S	
*J-8	Charles Bolesak	--	1928	205	5	do	108.1	Mar. 25 1955	C W	D S	
*J-9	A. F. Fisher	--	1921	125	6	do	92.2	Mar. 22 1955	C W		
*J-10	Jim Kosarek & Bro	Jim Kosarek	1920	75	5	do	57.8	do	C,W	S	
*J-11	J. C Houston	--	--	135	6	Yegua formation (?)	94.5	do	C W	S	
J-12	S. V. Houston well 1	G. McClain	1953	6,215	--	--	--	--	--	--	Oil test.
J-13	J C. Merchant well 1	Superior Oil Co.	1954	6,271	--	--	--	--	--	--	Do.
J-14	Baptist Foundation of Texas well 1	Morris Cannan	1954	6,433	--	--	--	--	--	--	Do.
*K-1	E. W. Schneider	--	--	--	4	Yegua formation	65.9	Feb. 25, 1955	C,W	S	
K-2	E. W. Schneider well 1	Henshaw Bros.	1940	3,381	--	--	--	--	--	--	Oil test.
K-3	Ignatz Pawlik well 1	L. H. Armer et al	1952	6,114	--	--	--	--	--	--	Do.
*K-4	Alois Moczygemba	--	1932	118	8	Jackson group	--	--	C,W	S	
*K-5	Otto Schraub	--	1915	165	4	Yegua formation	112.1	Apr. 27, 1955	C,W	S	
*K-6	E. H. Wehman	--	1921	235	4	Jackson group	a/120.0	Apr. 1955	C,W	S	
*K-7	Leonard Biela	--	--	650	5	Yegua formation	118.7	Apr. 27, 1955	C,W	S	
*K-8	N. F. Kroll	Kowlik & Nestroy	1939	147	4	Jackson group	83.9	Nov. 28, 1955	C,W	S	

a/ Reported by owner or driller.

* For chemical analyses, see table 8.

Table 7.- Drillers' logs of wells in Wilson County, Texas

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Well A-12					
Owner: Saspamco Sand Co. Driller: Geo. Guenther.					
Sand, coarse	39	39	Rock	1	270
Clay	21	60	Sand, water	15	285
Sand, white	30	90	Gumbo	30	315
Sand, water	111	201	Rock	3	318
Rock	1	202	Sand	79	397
Gumbo	15	217	Rock	1	398
Rock	1	218	Sand	21	419
Gumbo	12	230	Rock	2	421
Rock	4	234	Sand	117	538
Gumbo	7	241	Rock	1	539
Rock	2	243	Sand	15	554
Gumbo	26	269			
Well A-19					
Owner: San Antonio & Aransas Pass Ry. Co.					
Clay, black, sticky	42	42	Clay, red	5	72
Lime, grit, soft and white sandstone	12	54	Sand, black	1	73
Quicksand, yellow and white	13	67	Sandstone, white and dark	13	86
Well A-38					
Owner: Jerry Pavliska. Driller: Geo. Guenther.					
Sand, white	5	5	Rock	1	114
Sand, red	50	55	Gumbo	34	148
Sand, white	10	65	Sand, water	55	203
Sand, water	36	101	No record	15	218
Gumbo	12	113			
Well A-58					
Owner: Jessie M. Trevino, well 1. Driller: Sid Katz.					
Surface	130	130	Shale and hard sand rocks	20	300
Sand and sand rocks	124	254	Shale and sand	15	315
Sand rock	4	258	Shale, sticky	45	360
Shale and hard sand rocks	10	268	Shale and sand streaks	118	478
Shale	12	280			

(Continued on next page)

Table 7.- Drillers' logs of wells in Wilson County--Continued

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Well A-58--Continued					
Sand, shale, and rock ----	478	956	Sand, green ---------	18	1,902
Shale, sand and hard streaks	273	1,229	Shale and lime streaks	458	2,360
Rock ----------	4	1,233	Shale, sticky -------	127	2,487
Shale, sticky ----------	3	1,236	Shale ----------	128	2,615
Sand and shale ----------	342	1,578	Rock, hard, (petroleum odor) ----------	226	2,841
Shale and boulders -------	306	1,884			
Well A-59					
Owner: M. Augusta Rhodes, well 1. Driller: O. Neathery, Jr.					
Soil, surface ------ ----	321	321	Shale with streaks of sand ----------	429	2,369
Sand, shaly ----------	312	633	Shale with lime streaks	259	2,628
Sand ----------	176	809	Shale and lime ------	273	2,901
Shale with hard streaks -	862	1,671			
Shale with streaks of lime	269	1,940			
Well B-4					
Owner: City of Lavernia. Driller: Geo. Guenther.					
Clay, brown ----------	25	25	Gumbo ----------	3	198
Rock ----------	1	26	Sand ----------	11	209
Clay, brown ----------	17	43	Rock ----------	1	210
Rock ----------	12	55	Sand rock ----------	65	275
Gumbo ----------	19	74	Sand ----------	14	289
Rock ----------	1	75	Sand, white ---------	50	339
Sand ----------	26	101	Rock ----------	3	342
Gumbo ----------	19	120	Sand, white ---------	4	346
Sand ----------	10	130	Rock ----------	3	349
Gumbo ----------	58	188	Sand, white ---------	11	360
Sand ----------	7	195	Rock ----------	1	361
Well B-21					
Owner: Sutherland School. Driller: Geo. Guenther.					
Clay and gravel, red ---	27	27	Rock ----------	1	85
Clay, sandy ----------	21	48	Gumbo ----------	29	114
Rock ----------	1	49	Rock ----------	1	115
Gumbo ----------	11	60	Gumbo ----------	13	128
Rock ----------	1	61	Sand ----------	10	138
Gumbo ----------	19	80	Gumbo ----------	17	155
Sand ----------	4	84	Sand, coarse, water -	63	218

Table 7.- Drillers' logs of wells in Wilson County--Continued

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Well B-24					
Owner: Scott R. Donaho. Driller: Geo. Guenther.					
Sand, red	30	30	Gumbo	59	167
Gumbo	45	75	Shale	40	207
Sand, water	33	108	Sand	87	294
Well B-25					
Owner: Scott R. Donaho. Driller: Geo. Guenther.					
Sand and clay, yellow	30	30	Sand,gray	13	72
Gumbo	13	43	Sand	49	121
Rock	1	44	Gumbo, brown	48	169
Gumbo	6	50	Sand	12	181
Rock	1	51	Gumbo	27	208
Sand, fine	8	59	Sand	72	280
Well B-50					
Owner: R. J. Huebinger well 1. Driller: Gasoline Production Corp.					
Surface	4	4	Shale, sandy, sticky-	430	1,392
Clay, sandy	27	31	Shale with hard streaks	293	1,685
Sand and shale, hard	346	377	Shale, sticky, cored	25	1,710
Shale	15	392	Shale, cored	23	1,733
Shale with sand streaks, caved with oil in sand streaks	24	416	Shale	10	1,743
Shale, sandy	354	770	Shale with oil streaks	20	1,763
Shale, lime streaks	192	962			
Well B-51					
Owner: T. S. Riley well 1. Driller: Forney, Winn, and Texita Oil Co.					
Sand	8	8	Shale with hard sand streaks	125	854
Sand streaks and shale	200	208	Sand and sandy shale-	26	880
Shale, sand and sand rock, streaks	98	306	Sand rock	7	887
Sand, hard and soft with shale streaks	423	729	Shale, sandy	15	902
			Sand with thin shale streaks	348	1,250

(Continued on next page)

Table 7.- Drillers' logs of wells in Wilson County--Continued

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Well B-51--Continued					
Shale	80	1,330	Sand and sandy shale	125	1,977
Sand	10	1,340	Sand rock, hard	1	1,978
Shale, sandy with hard sand streaks	40	1,380	Sand, broken and shale	62	2,040
Shale	125	1,505	Sand with streaks of sticky shale	180	2,220
Sand rock	4	1,509	Shale and sand	202	2,422
Shale, sticky	241	1,750	Sand and shale, hard and soft	128	2,550
Shale, sandy, and sand	102	1,852			
Well C-21					
Owner: W. E. Harding well 1. Driller: Leferidge-Bilbo & Reddinge.					
Sand and clay	231	231	Shale	12	2,342
Shale and sand	717	948	Shale and sand	5	2,347
Sand and sandy shale	492	1,440	Sand	9	2,356
Sand and shale	191	1,631	Shale, hard sandy	134	2,490
Shale	15	1,646	Sand	5	2,495
Sand	5	1,651	Sand and shale	5	2,500
Shale and sand	432	2,083	Shale, sandy	11	2,511
Sand and sticky shale	87	2,170	Shale	105	2,616
Shale	5	2,175	Sand	25	2,641
Sand	10	2,185	Shale	117	2,758
Shale, sandy	10	2,195	Sand, shaly	10	2,768
Shale and sand	10	2,205	Shale	35	2,803
Shale	10	2,215	Sand	18	2,821
Sand	9	2,224	Sand, hard	10	2,831
Shale	81	2,305	Shale, sandy	10	2,841
Sand	15	2,320			
Sand and shale	10	2,330			
Well C-24					
Owner: City of Stockdale, well 1. Driller: Kelly Construction Co.					
Sand and clay, red and yellow	10	10	Packsand, blue	14	98
Sand, yellow	2	12	Shale, blue	12	110
Sandstone, soft, yellow	20	32	Sand, green	5	115
Packsand, brown	8	40	Gumbo, shale and sand streaks	25	140
Sand and shale, yellow	2	42	Gumbo	22	162
Sand, brown and gray	18	60	Sand, green	5	167
Sand, blue, water	10	70	Gravel, cemented	18	185
Sandstone, soft, brown	14	84			

(Continued on next page)

Table 7.- Drillers' logs of wells in Wilson County--Continued

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Well C-24--Continued					
Sand, green	10	195	Limestone	12	245
Gumbo	5	200	Rock and sand	38	283
Packsand, brown	11	211	Sand rock, soft	8	291
Sand, green	16	227	Sand rock, soft, coarse	23	314
Sand, brown	4	231	Clay, sandy	1	315
Gumbo	2	233			
Well C-25					
Owner: City of Stockdale well 2. Driller: A. R. Thierry.					
Clay	25	25	Shale, rocky and rock	3	284
Shale, sandy	41	66	Sand, layers and shale	40	324
Rock	2	68	Rock	1	325
Shale, blue	23	91	Sand with small layers of shale	62	387
Sand and shale, black	31	122	Shale and sand	15	402
Rock	1	123	Rock	1	403
Shale, sandy	35	158	Shale, sandy	1	404
Sand	27	185	Rock	1	405
Shale, sandy	18	203	Shale, sandy	45	450
Shale, layers of sand and rock	33	236	Shale, hard with small layers of sand	150	600
Rock	1	237			
Shale, sandy	11	248			
Sand	33	281			
Well F-6					
Owner: Fairview School. Driller: Geo. Guenther.					
Clay, red	4	4	Sand	15	338
Sand	8	12	Sand and clay	10	348
Clay	6	18	Rock	1	349
Clay, yellow	46	64	Gumbo	29	378
Sand	5	69	Sand	18	396
Gumbo	33	102	Gumbo	11	407
Sand, hard	58	160	Sand and gumbo	14	421
Sand, water	36	196	Rock	1	422
Sand	59	255	Sand and gumbo	24	446
Gumbo	10	265	Sand	9	455
Rock	3	268	Sand, streaks	1	456
Gumbo	3	271	Sand and rock, hard	10	466
Sand	12	283	Rock, hard	2	468
Gumbo	13	296	Gumbo	4	472
Rock	4	300	Rock	1	473
Sand, hard	1	301	Gumbo, rock	24	497
Sand and gumbo	21	322	Gumbo	36	533
Rock	1	323			

Table 7.- Drillers' logs of wells in Wilson County--Continued

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Well F-7					
Owner: Fairview School. Driller: Geo. Guenther.					
Sand	30	30	Sand	83	204
Clay	30	60	Rock	1	205
Gumbo	61	121	Sand, water	53	258
Well F-13					
Owner: Picosa School. Driller: Geo. Guenther.					
Clay, yellow	63	63	Gumbo	5	93
Gumbo	24	87	Sand, water	59	152
Rock	1	88			
Well F-67					
Owner: Stevens School. Driller: Geo. Guenther.					
Clay	40	40	Sand, water	33	103
Sand, white	30	70			
Well G-6					
Owner: Floresville Ice Plant. Driller: Geo. Guenther.					
Sand rock, white	65	65	Sand	101	290
Sand, water	55	120	Rock	1	291
Sand	42	162	Shale	41	332
Gumbo	27	189			
Well G-32					
Owner: G. D. Dunn. Driller: Geo. Guenther.					
Clay, red	5	5	Rock	1	96
Clay, yellow	15	20	Sand, seep	45	141
Sand, yellow	60	80	Clay	29	170
Sand, seep	15	95	Sand	30	200

Table 7.- Drillers' logs of wells in Wilson County--Continued

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Well G-45					
Owner: Ben L. Moczygemba. Driller: Geo. Guenther.					
Clay, yellow	3	3	Sand, blue	2	79
Sand, white	9	12	Shale, black	13	92
Clay, white	45	57	Sand, water	17	109
Shale, black	20	77	No record	21	130
Well G-48					
Owner: Geo. Guenther. Driller: Geo. Guenther.					
Clay, red	4	4	Sand, water	19	162
Sand, white	26	30	Rock	1	163
Clay, yellow	20	50	Gumbo	17	180
Sand, yellow	25	75	Sand, water	26	206
Gumbo	5	80	Gumbo	9	215
Sand, water	25	105			
Gumbo	38	143			
Well H-7					
Owner: Edmond Lyssy. Driller: Humble Oil & Refining Co.					
Sand and gravel, surface	254	254	Shale, with hard sand streaks, sandy	214	1,923
Shale and sand	753	1,007	Sand and shale	1,610	3,533
Sand and shale with streaks of hard sand	308	1,315	Shale with hard sand	717	4,250
Sand and shale	346	1,661	Sand and shale	50	4,300
Sand	17	1,678	Sand and shale, hard	45	4,345
Shale, sandy	31	1,709	Shale and sand	331	4,676

Table 8.- Analyses of water from wells and springs in Wilson County, Tex.

Analyses prior to 1939 were made by chemists employed by the Works Progress Administration under the supervision of the Bureau of Industrial Chemistry of the University of Texas

(Analyses in parts per million, except specific conductance, pH, and percent sodium)

Well	Owner	Depth of well (ft.)	Date of collection	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium ($Na + K$)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Boron (B)	Dissolved solids	Hardness as $CaCO_3$	Percent sodium	Specific conductance (micromhos at 25°C)	pH
A-2	Theodore Stanush	110	June 20, 1955	27	396	101	211	426	604	625	1.0	0.2	-	-	2,170	1,400	25	3,290	7.1
A-3	W. F. Boldt	75	June 21, 1955	55	399	74	395	119	426	1,150	.5	15	-	0.16	2,570	1,300	40	4,320	6.5
A-4	Paul Markowski	36	June 20, 1955	44	78	27	308	268	145	410	.8	30	-	-	1,170	306	69	2,180	7.2
A-5	D. A. Perkins	130	do	36	31	7.8	51	55	40	94	.4	.2	-	-	287	109	50	495	6.8
A-6	Frank Jolly	25	June 26, 1955	48	106	47	122	16	140	302	-	171	-	-	944	458	37	1,630	6.1
A-7	Carlos Seguin	85	Feb. 28, 1936	-	25	10	45	73	34	42	-	-	-	-	b193	106	-	-	-
A-8	R. E. Murray	75	Nov. 4, 1954	30	36	11	50 9.8	36	39	120	.2	18	-	-	326	136	42	593	6.6
A-9	Jim Sweeney	47	Feb. 27, 1936	-	90	15	132	268	173	124	-	-	-	-	b668	297	-	-	-
A-10	San Antonio Pipe & Sewer Co.	600	July 30, 1944	12	42	21	265	331	290	137	.2	.8	-	-	940	192	75	1,560	7.9
A-12	Saspamco Sand Co.	554	July 12 1955	18	21	9.6	279	314	257	130	-	.2	-	.80	870	92	87	1 480	8.0
A-19	San Antonio & Aransas Pass Ry. Co.	86	Apr. 1, 1936	-	-	-	-	140	8	32	-	-	-	-	176	-	-	-	-
A-23	Bruno Johns	40	Feb. 24, 1936	-	27	9	6	86	a	33	-	-	-	-	b118	103	-	-	-
A-24	Mrs. Lucia Montola	100	Feb. 14, 1936	-	20	8	23	91	18	26	-	-	-	-	b140	81	-	-	-
A-25	O. C. Johns	Spring	Feb. 21, 1936	-	16	5	26	92	a	30	-	-	-	-	b123	61	-	-	-
A-26	Alfred Roemer	Spring	Feb. 24, 1936	-	4	5	28	73	a	22	-	-	-	-	b 95	31	-	-	-
A-28	Dan T. Johns	400	Feb. 14, 1936	-	24	8	76	281	20	40	-	-	-	-	b308	141	-	-	-
A-29	O. C. Johns	1,036	July 12, 1955	16	30	8.8	134 7.9	372	22	62	-	.2	-	.30	474	111	71	797	8.0
A-30	Joe Garcia	110	Feb. 13, 1936	-	30	13	38	153	32	36	-	-	-	-	b225	127	-	-	-
A-32	Carl Shellhase	85	do	-	225	30	338	201	676	390	-	-	-	-	b1,759	684	-	-	-
A-33	do	46	Feb. 14, 1936	-	192	38	289	207	447	445	-	-	-	-	b1,514	635	-	-	-
A-36	Emil Frieda	87	Feb. 21, 1936	-	21	14	42	12	95	88	-	-	-	-	b266	108	-	-	-
A-37	E. Savoy	45	Feb. 7 1936	-	28	15	7	72	a	19	-	-	-	-	b161	133	-	-	-
A-39	Joe Pavliska	120	Mar. 20, 1936	-	111	62	199	146	545	196	-	-	-	-	b1 186	532	-	-	-
A-41	T. A. Spelman	210	Oct. 21, 1954	19	48	8.0	49	181	51	40	.6	.2	-	-	305	152	41	486	7.5
A-42	do	47	Mar. 20, 1936	-	78	15	53	122	176	64	-	-	-	-	b447	257	-	-	-
A-43	Canada Verda School	53	Oct. 21, 1954	21	41	6.0	29 11	82	62	55	.1	1.8	0.02	.09	285	128	31	455	7.0
A-46	Joe Montoya	28	Apr. 1, 1936	-	-	-	-	159	46	62	-	-	-	-	292	-	-	-	-
A-47	C. R. Moses	48	do	-	279	34	92	104	498	306	-	-	-	-	b1 260	836	-	-	-
A-51	C. A. Flores	720	Oct. 29 1954	17	14	6 0	273 4.8	322	207	130	.5	.0	-	.66	820	56	90	1,350	8 4
A-53	do	700	Nov. 1, 1954	18	19	8 0	315	285	292	160	.6	0	-	-	953	80	90	1,550	8 0
A-54	Graytown School	50	Nov. 4 1954	26	11	3.0	36	29	17	55	0	.0	-	-	171	41	66	277	6 3
A-60	Beckman Estate & Giles N. Hoover	Spring	Feb. 23 1956	28	39	5.0	25 5.6	141	17	34	4	1.1	-	.09	224	118	30	364	7 4

a Less than 10 parts per million.

b Sum of determined constituents.

Table 8 - Analyses of water from wells and springs in Wilson County--Continued

Well	Owner	Depth of well (ft.)	Date of collection	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium ($Na + K$)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (SO_4)	Boron (B)	Dissolved solids	Hardness as $CaCO_3$	Percent sodium	Specific conductance (micromhos at 25°C)	pH
B-1	Joe Carlich	100	Aug. 18, 1936	-	-	-	-	281	329	820	-	-	-	-	1,994	-	-	-	-
B-2	H. Schroeder	119	Apr. 24, 1936	-	-	-	-	214	48	86	-	-	-	-	377	-	-	-	-
B-4	City of Lavernia	361	June 20, 1955	23	108	38	94	7.0	331	218	91	0.1	1.0	0.04	0.17	778	426	32	1 170	7.4
B-5	Lavernia Farmers Ginning Co.	125	June 3, 1936	-	128	56	62		183	297	160	-	-	-	-	b793	550	-	-	-
B-7	Mrs. H. A. Linn	43	Aug. 11, 1936	-	-	-	-		464	225	78	-	-	-	-	820	-	-	-	-
B-8	Johnny Grun	270	June 21, 1955	20	122	52	97		394	243	113	.2	.5	-	.41	896	518	29	1,340	7.3
B-14	A. W. Forester	110	Nov. 17, 1954	20	27	6.0	32		94	31	37	.2	.0	-	.08	199	92	43	336	7.1
B-15	Wilson Co.	Spring	Aug. 13, 1936	-	60	12	69		18	219	74	-	-	-	-	b443	197	-	-	-
B-16	A. W. Forester	318	Nov. 12, 1954	16	11	1.8	282		664	2.5	70	1.4	.0	-	-	721	35	95	1,200	8.0
B-18	J. M. Bond	199	Nov. 23, 1954	17	18	5.8	197	5.4	482	42	52	.7	.2	.04	.41	584	69	85	956	7.7
B-20	Pat Higgins	1,600	July 16, 1955	13	2.8	.9	451	4.1	399	321	248	.3	.0	-	.87	1.240	10	98	2,080	9.0
B-22	-- Rice	225	June 20, 1955	13	14	5.7	159		385	12	53	.5	.0	-	09	444	58	86	778	7.8
B-24	Scott R. Donaho	294	June 21 1955	22	15	3.4	27		58	20	29	.2	.0	-	-	147	51	53	239	6.8
B-26	L. D. Peavy	60	Apr. 17, 1936	-	99	25	110		128	205	192	-	-	-	-	b694	350	-	-	-
B-27	Hugh Carr	70	do	-	27	9	98		-	241	76	-	-	-	-	b451	106	-	-	-
B-28	W. C. Gorham	700	Aug. 20, 1936	-	31	8	132		415	a	40	-	-	-	-	b415	110	-	-	-
B-30	H. G. Click	80	May 13, 1936	-	-	-	-		24	110	132	-	-	-	-	382	-	-	-	-
B-34	D. K. Bundrick	94	May 12, 1936	-	-	-	-		61	48	56	-	-	-	-	206	-	-	-	-
B-35	J. H. Riley	120	May 13, 1936	-	44	14	58		37	119	100	-	-	-	-	b353	169	-	-	-
B-39	J. L. Donaho	200	Apr. 16, 1936	-	23	9	74		37	118	74	-	-	-	-	b316	96	-	-	-
B-40	T. E. Johnson	125	Apr. 23, 1936	-	3	17	105		-	247	96	-	-	-	-	b468	75	-	-	-
B-41	I. E. Brown Dairy	135	Apr. 20 1936	-	-	-	-		6	19	88	-	-	-	-	170	-	-	-	-
B-45	Carol Talley	175	Feb. 20, 1936	-	32	13	100		30	138	128	-	-	-	-	b426	132	-	-	-
B-46	Millard C. Long	132	do	-	68	27	80		79	123	188	-	-	-	-	b525	283	-	-	-
B-48	C. E. Marsh	100	Feb. 12 1936	-	36	10	120		55	112	164	-	-	-	-	b469	131	-	-	-
C-1	J. Neyland	140	June 20, 1955	26	3.2	1.3	15		14	9.5	17	-	.0	-	-	84	13	71	109	6.5
C-2	H. S. Hastings	68	July 16, 1955	24	14	5.0	21		22	4.0	40	.0	27	-	-	146	56	45	255	6.1
C-3	Stokley Jackson	108	Jan. 24, 1936	-	62	26	27		73	123	96	-	-	-	-	b370	263	-	-	-
C-5	R. C. Elkins	52	Feb. 26, 1936	-	173	50	152		24	91	605	-	-	-	-	b1,083	636	-	-	-
C-6	Union Valley Baptist Church	24	June 15, 1936	-	-	-	-		159	36	150	-	-	-	-	416	-	-	-	-
C-7	H. O. Wiley	26	do	-	-	-	-		98	122	280	-	-	-	-	690	-	-	-	-
C-8	J. M. Spear	26	do	-	451	179	735		183	1,285	1,400	-	-	-	-	b4,140	1,860	-	-	-
C-9	Claud Chessler	85	June 11, 1936	-	-	-	-		134	44	100	-	-	-	-	329	-	-	-	-
C-12	Audrey G. Watkins	525	July 11, 1955	20	63	9.5	32	7.8	205	52	40	-	.0	-	.11	330	196	25	551	7.6
C-13	W. P. Smithey	65	June 12, 1936	-	-	-	-		128	399	350	-	-	-	-	1,218	-	-	-	-
C-14	S. E. Jones	114	June 11, 1936	-	-	-	-		61	54	92	-	-	-	-	270	-	-	-	-
C-16	E. O. Henry	44	June 9, 1936	-	38	4	24		159	17	12	-	-	-	-	b173	113	-	-	-

Table 8 - Analyses of water from wells and springs in Wilson County--Continued

Well	Owner	Depth of well (ft.)	Date of collection	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium ($Na + K$)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Boron (B)	Dissolved solids	Hardness as $CaCO_3$	Percent sodium	Specific conductance (micromhos at 25°C)	pH
C-17	E. R. Moore	71	June 9 1936	-	-	-	-	214	51	112	-	-	-	-	423	-	-	-	-
C-18	King Estate	800	June 18 1936	-	15	8	121	311	8	49	-	-	-	-	b354	70	-	-	-
C-20	L. C. Carr	700	do	-	22	7	119	342	12	36	-	-	-	-	b364	84	-	-	-
C-22	Bob Hardin	1,600	Apr. 13 1951	15	14	7.2	148	348	19	57	0.2	0.0	-	-	436	64	83	747	8.4
C-24	City of Stockdale	315	July 28 1944	21	67	26	53 12	240	126	54	.1	.8	-	-	483	274	29	790	7.7
C-24	do	315	Oct. 22 1954	27	56	22	108 10	220	163	87	.0	1.8	0.13	0.29	583	230	49	934	7.6
C-25	do	460	do	24	54	22	64 9.2	239	100	49	.0	.8	.14	.17	441	225	37	714	7.6
C-30	Lilly Grove School	70	June 13 1936	--	66	21	69	79	70	172	-	-	-	-	b437	230	-	-	-
C-31	T. F. Crisp	250	June 19 1936	-	55	26	46	171	60	102	-	-	-	-	b373	246	-	-	-
C-32	Hugo Sanders	151	June 13 1936	-	-	-	-	146	221	142	-	-	-	-	655	-	-	-	-
C-35	T. E. Roberson	600	June 25 1936	-	64	29	132	146	165	194	-	-	-	-	b656	278	-	-	-
C-36	E. D. Moczygemba	162	June 24 1936	-	-	-	-	159	262	440	-	-	-	-	1,189	-	-	-	-
C-37	J. M. Hawk	140	do	-	-	-	-	207	221	275	-	-	-	-	913	-	-	-	-
C-38	Dee Martin	71	May 15 1936	-	-	-	-	12	118	265	-	-	-	-	591	-	-	-	-
C-39	T. W. Sutherland	100	Aug. 17 1936	-	23	9	58	73	41	84	-	-	-	-	b251	96	-	-	-
C-40	Henry Zimmerman	72	May 15 1936	-	-	-	-	281	1,045	910	-	-	-	-	3,133	-	-	-	-
C-43	Julious W. Loessin	263	May 17 1952	16	143	58	122	194	400	202	-	1.0	-	.64	1,040	596	31	1,640	8.0
D-2	Manford Estate	1,735	Aug. -- 1944	-	21	7.1	72	234	18	20	-	.0	-	-	253	82	66	-	-
D-4	H. H. Weinert	800	Sept. 3 1936	-	67	26	500	268	719	280	-	-	-	-	b1,724	276	-	-	-
D-9	A. V. McGlothing	60	June 23 1955	47	224	106	345	354	775	460	.2	.2	-	-	2,130	995	43	3,150	7.9
D-11	J. D. Houston	520	Sept. 3 1936	-	-	-	-	336	225	370	-	-	-	-	1,172	-	-	-	-
E-5	Mrs. Jewel Westerman	90	Apr. 11 1936	-	20	10	25	84	19	40	-	-	-	-	b155	91	-	-	-
E-9	J. H. Parrish	145	Apr. 15 1936	-	79	24	74	189	78	156	-	-	-	-	b504	295	-	-	-
E-10	I. B. and Carl E. Ray	700	July 10 1955	20	23	5.3	23 8.9	48	37	46	.0	.2	-	.10	199	79	36	321	7.4
E-11	L. B. Wright	148	June 22 1955	40	44	14	65	129	41	114	-	.0	-	-	381	168	46	665	7.5
E-14	J. M. Hayden	104	Apr. 15, 1936	-	-	-	-	79	15	20	-	-	-	-	118	-	-	-	-
F-1	H. W. Tobias	110	Oct. 28 1954	26	438	128	309	453	1,030	600	8	1.5	-	-	2,760	1,620	29	3,830	7.3
F-2	Tom Wright	110	Apr. 3 1936	-	-	-	-	110	46	202	-	-	-	-	471	-	-	-	-
F-4	Ed L. Biesenbach	100	June 22 1955	45	23	6.8	54	201	17	12	.6	2.8	-	-	273	85	58	397	7.5
F-5	W. H. Tanneberger	180	Mar. 18 1936	-	55	45	87	207	112	158	-	-	-	-	b560	321	-	-	-
F-6	Fairview School	390	June 22 1955	10	103	38	91	228	268	102	4	.0	-	-	724	413	32	1,170	7.5
F-7	do	258	Nov 3 1954	30	88	26	62	317	103	66	.7	.8	-	-	548	327	29	870	7.6
F-10	John B. Connally	983	June 22 1955	15	48	7.3	31 6.8	172	35	37	.1	.2	-	.07	261	150	30	463	7.5
F-11	D. H. Woodley	150	Mar. 18 1936	-	175	106	234	128	442	580	-	-	-	-	b1,601	873	-	-	-
F-12	F. J. Pelech	127	do	-	71	57	98	110	278	174	-	-	-	-	b733	412	-	-	-
F-13	Picosa School	152	Nov. 3 1954	28	94	41	120	314	217	125	.7	.8	-	-	812	402	39	1,250	7.9
F-14	P. Martinez	87	Mar. 18 1936	-	63	62	172	134	349	186	-	-	-	-	b899	412	-	-	-
F-16	John Krajei	132	Mar. 29 1936	-	58	18	65	85	38	180	-	-	-	-	b593	221	-	-	-

Table 8.- Analyses of water from wells and springs in Wilson County--Continued

Well	Owner	Depth of well (ft.)	Date of collection	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium ($Na + K$)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Boron (B)	Dissolved solids	Hardness as $CaCO_3$	Percent sodium	Specific conductance (micromhos at 25°C)	pH
F-17	Almo Hartmann	128	Mar. 21, 1936	-	102	40	87	73	188	250	-	-	-	-	b703	420	-	-	-
F-18	E. Talamantes	200	June 21, 1955	31	126	30	80	292	117	175	1.0	0.0	-	-	704	438	38	1,200	7.7
F-19	-- Wright	808	Oct. 21, 1954	18	53	14	60	281	36	36	.6	.5	-	-	356	190	41	618	7.9
F-21	H. P. Tipton	950	Nov. 12, 1954	18	53	16	76	306	37	52	.6	.8	-	-	403	199	45	700	7.8
F-22	Mrs. T. B. Carpenter	90	Feb. 21, 1936	-	135	28	42	24	235	196	-	-	-	-	b648	452	-	-	-
F-23	R. A. Wiseman	600	do	-	21	10	104	268	a	71	-	-	-	-	b340	93	-	-	-
F-25	W. P. Bishop	600	June 21, 1955	16	20	7.6	132	395	1.7	29	.8	.0	-	-	401	81	78	753	8.0
F-27	R. Johnson	875	Oct. 11, 1954	19	51	16	80	295	50	51	.6	.0	-	0.26	413	192	48	704	7.6
F-29	J. F. Schroeder	90	Mar. 21, 1936	-	198	55	234	177	750	212	-	-	-	-	b1,537	717	-	-	-
F-30	Joe Estrada	50	Mar. 16, 1936	-	24	25	172	201	127	170	-	-	-	-	b618	163	-	-	-
F-32	S. W. Seale	175	Mar. 23, 1936	-	-	4	287	616	a	94	-	-	-	-	b825	15	-	-	-
F-33	Mrs. Chas. Boening	126	Mar. 22, 1936	-	-	-	-	104	29	32	-	-	-	-	176	-	-	-	-
F-34	L. E. Ziegler	106	Mar. 23, 1936	-	-	-	-	85	1,216	260	-	-	-	-	2,199	-	-	-	-
F-38	Joe Pennartz	98	Mar. 24, 1936	-	-	-	-	140	114	86	-	-	-	-	411	-	-	-	-
F-39	C. B. Watson	980	Nov. 11, 1954	17	51	14	59	288	29	31	.6	.5	-	-	344	184	41	595	7.7
F-40	C. C. Hoover	870	Nov. 10, 1954	23	76	28	117	309	170	90	.6	.2	-	-	657	304	46	1,070	7.7
F-41	C. B. Watson	600	Mar. 13, 1936	-	8	27	102	256	49	66	-	-	-	-	b380	133	-	-	-
F-43	do	800	Nov. 11, 1954	17	52	12	54	273	31	28	.5	.2	-	-	334	180	39	569	7.5
F-44	J. B. Connally	84	Mar. 17, 1936	-	16	15	156	232	117	92	-	-	-	-	b512	102	-	-	-
F-45	J. Marek	108	do	-	58	42	145	232	219	154	-	-	-	-	b734	320	-	-	-
F-46	J. B. Connally	860	Mar. 13, 1936	-	29	18	21	146	22	36	-	-	-	-	b199	146	-	-	-
F-48	Escherberg & Joe Klasek	93	Mar. 29, 1936	-	16	7	46	73	18	65	-	-	-	-	b188	69	-	-	-
F-49	J. T. Sheehy	183	Mar. 27, 1936	-	34	21	92	128	154	76	-	-	-	-	b440	173	-	-	-
F-51	Victor Sralla	70	Apr. 9, 1936	-	-	-	-	116	23	42	-	-	-	-	193	-	-	-	-
F-52	Felix Janek	146	Apr. 4, 1936	-	414	403	446	302	1,908	980	-	-	-	-	b4,707	2,692	-	-	-
F-55	R. A. Popham	1,104	June 22, 1955	15	38	6.1	24 7.4	126	34	33	.1	.2	-	.48	218	120	29	382	7.2
F-56	Eugene Popham	84	Apr. 8 1936	-	-	-	-	110	23	156	-	-	-	-	367	-	-	-	-
F-59	W. C. Hasse	38	Mar. 28, 1936	-	162	77	147	98	578	256	-	-	-	-	b1,268	722	-	-	-
F-61	O. J. Hierholzer	95	Mar. 30, 1936	-	-	-	-	73	441	208	-	-	-	-	1,010	-	-	-	-
F-63	William Huble	150	do	-	-	-	-	122	209	220	-	-	-	-	740	-	-	-	-
F-64	J. W. Hierholzer	420	do	-	58	41	150	169	259	166	-	-	-	-	b757	316	-	-	-
F-65	Schmalstieg Bros.	1,600	June 24, 1955	17	61	11	39 8.9	274	28	27	.4	.2	0.00	.15	328	197	29	561	7.7
F-68	V. Lichnovsky	100	Mar. 28, 1936	-	69	15	80	85	145	134	-	-	-	-	b485	235	-	-	-
F-69	-- Escherberg	466	June 4, 1936	-	17	8	487	384	219	420	-	-	-	-	b1,340	75	-	-	-
F-71	Ed Barthold	435	do	-	26	6	482	372	270	390	-	-	-	-	b1,357	88	-	-	-
F-72	Mrs. J. E. Dewees	2,225	July 16, 1955	20	57	15	58 12	276	59	43	-	.0	-	.17	405	212	37	676	7.9
F-73	-- Escherberg	80	May 22, 1936	-	157	47	316	354	538	300	-	-	-	-	b1,555	586	-	-	-
F-74	J. A. Richardson Estate	202	May 23, 1936	-	-	-	-	146	1,060	250	-	-	-	-	2,014	-	-	-	-

Table 8 - Analyses of water from wells and springs in Wilson County--Continued

Well	Owner	Depth of well (ft.)	Date of collection	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium ($Na + K$)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Boron (B)	Dissolved solids	Hardness as $CaCO_3$	Percent sodium	Specific conductance (micromhos at 25°C)	pH
G-2	City of Floresville	960	Oct. 22, 1954	18	26	9.6	112 9.7	319	42	42	0.3	0.0	0.01	0.23	417	104	68	699	7.5
	do	826	July 30, 1944	15	26	11	100 9.1	354	16	22	.2	0	-	-	412	110	64	718	7.6
G-3	do	826	Oct. 22, 1954	18	26	10	123	329	41	43	.6	.09	-	-	424	106	72	710	8.2
G-4	Troy E. Talley	95	Mar. 23, 1936	-	27	26	334	348	171	304	-	-	-	-	b1,033	176	-	-	-
G-5	R. C. Lang	500	Mar. 4, 1936	-	4	13	1,285	1,537	a	1,130	-	-	-	-	b3,200	62	-	-	-
G-7	S. P. Popham	70	Apr. 13, 1936	-	-	-	-	43	583	564	-	-	-	-	1,742	-	-	-	-
G-8	Mrs. Henry Wehman	160	Mar. 24, 1936	-	49	39	167	183	247	170	-	-	-	-	b762	284	-	-	-
G-9	Roy Maddox	46	Apr. 13, 1936	-	93	29	20	12	171	148	-	-	-	-	b467	353	-	-	-
G-11	Nicolas George	168	Apr. 22, 1936	-	362	118	172	146	1,274	225	-	-	-	-	b2,222	1,388	-	-	-
G-13	Ed Harper	120	Apr. 14, 1936	-	-	-	-	73	48	78	-	-	-	-	250	-	-	-	-
G-14	Mrs. H. R. Reagan	107	Apr. 22, 1936	-	-	-	-	171	665	252	-	-	-	-	1,476	-	-	-	-
G-15	L. G. Arnold	1,121	June 22, 1955	16	4.9	2.5	254	582	18	56	.5	.2	-	.49	639	22	96	1,060	7.9
G-16	D. L. Bundrick	120	Apr. 22, 1936	-	-	-	-	244	308	138	-	-	-	-	852	-	-	-	-
G-17	Mrs. Annie Harper	117	do	-	-	-	-	116	15	90	-	-	-	-	257	-	-	-	-
G-18	do	55	do	-	-	-	-	122	72	260	-	-	-	-	609	-	-	-	-
G-19	A. Rideout	62	May 14, 1936	-	-	-	-	146	249	275	-	-	-	-	903	-	-	-	-
G-21	Philip Mutz	79	May 15, 1936	-	58	20	82	73	40	216	-	-	-	-	b452	227	-	-	-
G-22	Rex Reed	96	do	-	-	-	-	24	247	168	-	-	-	-	633	-	-	-	-
G-24	Chester Kopecki	100	May 18, 1936	-	-	-	-	37	79	128	-	-	-	-	342	-	-	-	-
G-25	Bennie Treybig	488	May 1, 1936	-	18	4	815	464	829	420	-	-	-	-	b2,314	63	-	-	-
G-26	Joe Devora	150	do	-	-	-	-	311	274	3,860	-	-	-	-	6,678	-	-	-	-
G-27	O. A. Niestroy	39	May 19, 1936	-	106	40	188	409	264	162	-	-	-	-	b961	431	-	-	-
G-28	J. H. McDaniel	43	May 1, 1936	-	-	-	-	214	62	31	-	-	-	-	311	-	-	-	-
G-30	William Budenig	98	Apr. 29, 1936	-	-	-	-	98	32	90	-	-	-	-	264	-	-	-	-
G-31	A. J. Kolther	82	do	-	-	-	-	12	48	250	-	-	-	-	469	-	-	-	-
G-33	City of Poth	2,010	Nov. 22, 1955	21	42	1.4	205 3.6	461	38	37	.5	.0	.09	.30	538	16	96	857	7.7
G-34	do	2,032	Oct. 6, 1939	-	-	-	224	512	30	39	.6	-	-	-	532	21	-	-	-
	do	2,032	July 29, 1944	21	6.0	1.9	215 4.0	495	32	38	.6	0	-	-	567	23	94	981	8.2
	do	2,032	Mar. 25, 1949	22	4.2	2.1	220	494	33	41	-	.0	-	-	566	19	96	921	-
G-35	Erwin Hoefelmeyer	127	Apr. 30, 1936	-	-	-	-	354	2,186	740	-	-	-	-	4,544	-	-	-	-
G-36	A. F. Rotter	390	May 1, 1936	-	84	51	1,896	403	1,302	2,030	-	-	-	-	b5,561	422	-	-	-
G-37	A. R. Becker	526	Mar. 30, 1949	15	22	34	734	400	1,010	290	-	2.2	-	-	2,290	195	89	3,310	-
G-38	William Kosarek	347	June 2, 1936	-	-	30	1,818	1,220	28	2,170	-	-	-	-	b4,656	124	-	-	-
G-39	Ed Jiral	205	do	-	-	-	-	415	610	2,570	-	-	-	-	5,227	-	-	-	-
G-40	William Eckel	130	Apr. 30, 1936	-	499	116	386	268	1,494	560	-	-	-	-	b3,187	1,727	-	-	-
G-41	Clyde Fahrentold	2,400	July 16, 1955	23	22	8.4	105 8.6	307	43	28	-	.2	-	.14	392	90	69	639	7.9
G-42	J. H. Johnson	135	May 28, 1936	-	-	-	-	378	838	250	-	-	-	-	1,891	-	-	-	-
G-43	Chas. Warnken, Jr.	2,508	June 24, 1955	22	9.2	4.6	168 6.2	411	18	35	4	.0	.00	.16	466	42	88	754	8.0

Table 8 - Analyses of water from wells and springs in Wilson County--Continued

Well	Owner	Depth of well (ft)	Date of collection	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium ($Na + K$)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Boron (B)	Dissolved solids	Hardness as $CaCO_3$	Percent sodium	Specific conductance (micromhos at 25°C)	pH
G-44	F H Humphries	120	June 8 1936	-	-	-	-	354	865	-	-	-	-	-	2 047	-	-	-	-
G-45	Ben L Moczygemba	130	Mar 6 1936	-	381	148	444	221	1 468	-	-	-	-	-	b3 292	1 558	-	-	-
G-46	Stanek Sprencel	225	Apr 29 1936	-	146	77	11	256	15	346	-	-	-	-	b715	682	-	-	-
G-47	O D Compton	400	June 16 1955	22	138	60	127	239	388	197	0 0	0 0	-	0 31	1 050	591	32	1 646	7 5
G-48	Geo Guenther	215	July 16 1955	31	152	61	276	426	677	125	2	2	-	-	1 530	630	49	2 180	7 9
H-1	[illegible] Estate	2 250	Aug - 1945	12	6 7	3 5	1 200 18	1 290		9 1 140	1 8	1 0	-	-	3 020	31	98	5 390	8 4
H-2	Eddie Jarzombek	176	July 14 1955	56	312	60	294	359	800	380	4	2	-	-	2 080	1 020	38	2 900	7 8
H-3	Aaron Sells	164	do	1 7	352	187	316 24	12	1 400	670	0	2	-	-	3 960	1 650	29	4 960	6 8
H-5	F C Oltmans	-	June 25 1936	-	16	7	a26	317	442	500	-	-	-	-	b1 747	55	-	-	-
H-6	Henry Bohman	145	do	-	-	-	-	12	1 572	635	-	-	-	-	3 230	-	-	-	-
H-8	R C Teas	1 000	May 18 1936	-	7	2	1 648	1 281	a	1 620	-	-	-	-	b4 066	26	-	-	-
H-9	A Keller	536	do	-	12	7	1 964	1 757	a	2 050	-	-	-	-	b4 897	59	-	-	-
H-10	Alois Kollodzeij	110	do	-	128	31	203	268	449	144	-	-	-	-	b1 087	449	-	-	-
H-11	[illegible] School	140	July 14 1955	22	145	40	69 17	259	169	218	2	2	07	50	808	562	22	1 400	7 7
H-12	Farmers Gin Co	60	June 22 1936	-	15	24	142	146	26	210	-	-	-	-	b489	135	-	-	-
H-14	John E Muntz	125	May 20 1936	-	143	62	177	177	452	270	-	-	-	-	b1 191	613	-	-	-
H-16	[illegible]laski School	400	July 18 1955	4 2	40	56	417 13	257	632	270	2	5	07	78	1 560	330	72	2 610	8 1
J-1	Hugo Lundt	677	July 11 1955	16	2.6	8	614	295	542	400	-	1 8		79	1 720	10	99	2 870	8 9
J-2	Riley Cooper	125	June 4 1936	-	549	165	408	296	2 271	230	-	-	-	-	b3 994	2 249	-	-	-
J-3	Earl Bryan	2 022	Oct - 1953	19	11	5 2	160 7 2	401	20	42	5	0	-	22	462	49	86	756	9 2
J-6	Speer Ranch	760	June 1 1936	-	-	-	-	292	640	490				-	1 914	-	-	-	-
J-7	William Koening	135	do	-	72	24	159	-	299	285	-	-	-	-	b839	278	-	-	-
J-8	Chas Bolesak	295	June 5 1936	-	-	-	-	98	1 711	600	-	-	-	-	3 442	-	-	-	-
J-9	A F Fisher	125	June 6 1936	-	-	-	-	458	1 454	530	-	-	-	-	3 263	-	-	-	-
J-10	Jim Kosarek & Bro	75	June 3 1936	-	-	-	-	207	1 490	790	-	-	-	-	3 516	-	-	-	-
J-11	J C Houston	135	June 6 1936	-	261	34	447	256	1 036	340	-	-	-	-	b2 244	796	-	-	-
K-1	E W Schneider	-	June 8 1936	-	-	-	-	384	1 614	720	-	-	-	-	3 728	-	-	-	-
K-4	Alois Moczygemba	118	Sept 22 1936	-	-	-	-	67	936	930	-	-	-	-	2 833	-	-	-	-
K-5	Otto Schraub	165	June 8 1936	-	242	42	347	73	654	560	-	-	-	-	b1 881	776	-	-	-
K-6	E H Wehman	235	do	-	-	-	-	232	1 232	550	-	-	-	-	2 795	-	-	-	-
K-7	Leonard Biela	650	July 11 1955	36	276	27	741	261	1 260	625	-	3 0	-	-	3 100	800	67	4 360	8 1
K-8	N F Kroll	147	Nov 28 1955	40	157	5 8	679	399	677	610	-	4	-	-	2 370	416	78	3 670	7 7

a Less than 10 parts per million

b Sum of determined constituents

Table 9.- Well and spring numbers used in this report and corresponding numbers used in the report by E. L. Marek in 1936

New number	Old number	New number	Old number	New number	Old number	New number	Old number
A- 7	100	C- 1	62	F-41	304	G-39	452
A- 9	103	C- 3	670	F-44	163	G-40	453
A-10	104	C- 5	659	F-45	170	G-42	438
A-13	97	C- 6	656	F-46	326	G-44	443
A-14	96	C- 7	654	F-48	316	G-45	467
A-15	95	C- 8	655	F-49	315	G-46	472
A-19	89	C- 9	651	F-51	351	H- 5	572
A-22	86	C-13	624	F-52	380	H- 6	573
A-23	87	C-14	623	F-56	375	H- 8	558
A-24	85	C-16	622	F-58	394	H- 9	561
A-25	83	C-17	619	F-59	395	H-10	565
A-26	82	C-18	616	F-61	396	H-12	569
A-28	81	C-20	615	F-63	401	H-14	567
A-30	77	C-22	614	F-64	402	J- 2	405
A-32	80	C-24	612	F-68	391	J- 6	407
A-33	79	C-30	707	F-69	403	J- 7	408
A-36	179	C-31	703	F-71	404	J- 8	419
A-37	180	C-32	704	F-73	435	J- 9	412
A-39	151	C-35	574	F-74	436	J-10	410
A-40	115	C-36	575	G- 3	261	J-11	413
A-42	114	C-37	576	G- 4	299	K- 1	445
A-46	112	C-38	578	G- 5	292	K- 4	475
A-47	109	C-39	601	G- 7	275	K- 5	417
B- 1	1	C-40	579	G- 8	295	K- 6	416
B- 2	6	D- 1	701	G- 9	230	K- 7	415
B- 3	7	D- 4	710	G-11	227		
B- 5	13	D-11	709	G-13	222		
B- 6	15	E- 5	368	G-14	226		
B- 7	12	E- 9	370	G-16	498		
B-15	31	E-14	373	G-17	501		
B-17	45	F- 2	359	G-18	502		
B-18	44	F- 5	365	G-19	556		
B-26	54	F-11	353	G-21	555		
B-27	53	F-12	355	G-22	497		
B-28	617	F-14	159	G-24	488		
B-30	605	F-16	157	G-25	495		
B-32	604	F-17	158	G-26	494		
B-34	219	F-22	178	G-27	490		
B-35	217	F-23	174	G-28	487		
B-39	231	F-29	171	G-30	469		
B-40	211	F-30	303	G-31	468		
B-41	208	F-32	305	G-34	460		
B-43	210	F-33	309	G-35	459		
B-45	233	F-34	308	G-36	492		
B-46	200	F-35	318	G-37	456		
B-48	194	F-38	320	G-38	451		