Ground-Water Resources of Atascosa County Texas

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1079–C

Prepared in cooperation with the Texas State Board of Water Engineers

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By R. W. SUNDSTROM *and* C. R. FOLLETT

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GROUND-WATER RESOURCES OF ATASCOSA COUNTY, TEXAS

By R. W. SUNDSTROM and C. R. FOLLETT

ABSTRACT

Atascosa County, Tex., is underlain by water-bearing sands of Tertiary age that furnish water for domestic and stock supplies throughout the county, for the public supply of all except one of the towns and cities in the county, for irrigation in several localities, for drilling oil wells in the central and southern parts of the county, for washing glass sand in the northern part of the county, and for maintaining several lakes that are used for hunting and fishing. By far the most productive formation is the Carrizo sand, but supplies of considerable magnitude are also obtained from sands in the Mount Selman and Cook Mountain formations.

The rate of withdrawal from the Carrizo sand amounted to about 15,500 acre-feet a year in 1944-45 or an average of about 13.8 million gallons a day. This was about 6,000 acre-feet a year greater in 1944-45 than it was in 1929-30. Of the total amount of water withdrawn in 1944–45 about 6,500 acre-feet a year is largely wasted from uncontrolled flowing wells. If the waste of water from wells in the Carrizo sand were stopped, the consumption of water for useful purposes could be increased about 70 percent without increasing the draft on the underground reservoir.

The increase in total withdrawals from the Carrizo sand has been accompanied by a general decline in the artesian head between 1929–30 and 1944 ranging from 3 to 25 feet. On the whole, the evidence shows that the artesian reservoir is not being overdrawn and that it will sustain a somewhat greater draft.

INTRODUCTION

Atascosa County, Tex., is underlain by water-bearing sands in several geologic formations. Wells in these sands furnish water for domestic purposes and stock throughout the county; for the public supply of all the towns and cities except Campbellton, which uses river water; for irrigation in several localities; for drilling oil wells in the central part of the county; for washing glass sand in the northern part of the county; and for maintaining several lakes that are used for hunting and fishing. By far the most productive formation is the Carrizo sand, but supplies of considerable magnitude are also obtained from sands in the Mount Selman and Cook Mountain formations. In many localities the wells in these formations flow, and much water is wasted.

PREVIOUS INVESTIGATIONS

The geology and ground-water resources of Atascosa and Frio Counties were investigated during the summers of 1929 and 1930, in December 1931, and in June 1932 as a cooperative project between

the Engineering Experiment Station of the Texas Agricultural and Mechanical College, the United States Geological Survey, and the Texas Board of Water Engineers. The work was done by John T. Lonsdale, under the direction of W. N. White of the Geological Survey, who is in charge of ground-water investigations in Texas. In February 1931 a report [1] was released to the press giving a summary of the results of ground-water surveys in several counties in southwestern Texas, including the work by Lonsdale. In 1935 a detailed report [2] was published by the Geological Survey giving the results of the survey in Atascosa and Frio Counties.

PURPOSE OF THIS INVESTIGATION

Since Lonsdale's investigation was made many new wells have been drilled, withdrawals of ground water have increased materially, and artesian pressures have declined in most of the county. As a result of this decline, many of the irrigation farmers have become alarmed, particularly those who irrigate from flowing wells.

In the spring of 1944 the Atascosa County Soil Conservation District, composed of a large group of farmers, made a formal request to the Texas State Board of Water Engineers for further ground-water studies, with special reference to the increase in the development of ground water and the effect that it has had on the principal artesian reservoirs. In response to this request made through Mr. John B. Temple, chairman of the Conservation Board, an investigation was conducted by the writers in May and June 1944 and in August 1945. In the course of these investigations, records of 130 wells that had been drilled since 1929–30 were obtained, the discharge of many wells both flowing and pumped was measured, artesian pressures in many of the flowing wells were recorded, and water-level measurements were made in numerous wells that do not flow. Figures were compiled on the amount of land under irrigation from wells and the quantities of water used for all purposes. Samples of water were obtained from numerous wells and were analyzed in the chemical laboratory of the Geological Survey and the Texas Board of Water Engineers at Austin. A large part of the data thus assembled is given in the well records, well logs, and water-well analyses in this report.

RELATION OF THE GEOLOGY TO THE OCCURRENCE OF GROUND WATER

The geology of Atascosa County and its relation to the occurrence of ground water was discussed in considerable detail by Lonsdale and will be reviewed only briefly here.

[1] Meinzer, O. E., and White, W. N., Survey of the underground waters of Texas, Feb. 16, 1931 (mimeographed report, 29 pp.)

[2] Lonsdale, John T., Geology and ground-water resources of Atascosa and Frio Counties, Tex.: U. S. Geol. Survey Water-Supply Paper 676, 1935.

The rock formations exposed in the county are of Quaternary and Tertiary age, but rocks of Cretaceous age have been identified in several deep oil tests in the central and northern parts of the county. So far as the occurrence of usable ground water is concerned, only the formations of Tertiary age are important. The Quaternary stream and terrace deposits are thin and yield little or no water, and the Cretaceous rocks contain salty water. The Tertiary formations, named in the order of age from older to younger, are the Indio formation of the Wilcox group, Carrizo sand, Mount Selman formation, Cook Mountain formation, Yegua formation, and the Jackson formation.

Except in localities where there are notable folds or faults, the rocks in most places dip to the south or southeast, which is also the general direction in which the land surface slopes. However, the dip is nearly everywhere steeper than the slope of the land surface, and therefore successively younger formations are encountered in crossing the area from north to south or from northwest to southeast. Each formation has an outcrop area from which it extends toward the south or southeast below the younger formations to progressively greater depths below the surface. Thus the formations that appear at the surface in the northern part of the county occur at depths of several thousand feet in the southern and southeastern parts of the county. For example, the Carrizo sand, which is at the surface in the northern part of the county (see pl. 2), is found at a depth of about 4,000 feet near Campbellton, in the southeastern part of the county.

The structure of the rocks in Atascosa County is favorable for the occurrence of artesian water. The formations are composed largely of permeable sands interbedded with relatively impermeable clays and shales. The source of the water supply in the permeable sands is the rain that falls on their outcrop areas and seepage from streams that rise farther north and flow southward across these areas. A part of the rain and stream water penetrates to the water table in the outcrop areas and thence percolates slowly down the dip to greater and greater depths. The water, being confined in the sands between beds of impermeable clay or shale, is under hydrostatic pressure from higher levels in the outcrop areas, and in localities having an elevation considerably below the general level of the outcrops the pressure is great enough to produce artesian flow in wells.

DEVELOPMENT OF GROUND WATER

CARRIZO SAND

IRRIGATION

The production of ground crops in the Poteet area of northern Atascosa County, especially vegetables and strawberries, by means of irrigation from wells in the Carrizo sand (see pl. 2 and well records)

started about 1904. It is believed that in the early days of this development all the wells flowed. Later many of them were equipped with pumps. The first irrigation well, a flowing well, was drilled at Poteet in 1904 before the advent of the railroad. By 1910, 10 flowing wells were in use, of which several were used for irrigation, and thereafter several were drilled each year until World War I, when the development was stopped on account of the high cost of drilling the wells and providing them with equipment where this was needed. After the war the development was resumed.

In 1929–30, 57 wells in the Carrizo sand were used for irrigation, of which 41 had a flow; a total of 1,350 acres was irrigated from them, and about 3,200 acre-feet of water (2.4 acre-feet per acre) was used. This is the equivalent of about 2.9 million gallons of water a day through the year.

As shown by the Lonsdale report,[3] most of the irrigation in 1929–30 was in the northern part of the county near Poteet and was restricted generally to the lower lands in the Atascosa River Valley, only a few wells being on higher land at some distance from the stream. Most of the irrigation wells were within 5 miles of Poteet.

In 1945, 108 wells in the Carrizo sand were used for irrigation in Atascosa County, of which 51 were flowing wells; a total of about 3,544 acres was irrigated, and 7,900 acre-feet of water (2.2 acre-feet per acre) was used. This represents an average of about 7 million gallons of water a day throughout the year. Of the total number of wells in use, 98 were within a territory which still may be designated as the Poteet area although its former boundaries have expanded in all directions, the wells farthest west now being about 10 miles from the town and those farthest east about 5 miles from the town (see pl. 2). Of the total number of acres under irrigation about 2,800 acres are in the Poteet area.

PUBLIC, INDUSTRIAL, DOMESTIC, AND STOCK USE

Wells in the Carrizo sand furnish the public supplies of Poteet, North Pleasanton, and Jourdanton. The total average consumption by the three towns is about 125,000 gallons a day, according to the water superintendents. An average of 60,000 to 70,000 gallons a day is pumped from a well in the Carrizo sand in the northern part of the county for washing sand for the manufacture of glass. Oil-well drilling, mostly in the central part of the county, requires an estimated average of half a million gallons of water a day. Many of the wells in the Carrizo sand are used for domestic purposes and stock, but the total consumption is not large. However, in order to provide water for stock, several of the irrigation wells of large flow are allowed to

[3] Lonsdale, John T., op. cit., pl. 1.

remain open when they are not needed for irrigation, and from some of them large quantities are wasted.

WASTE OF WATER

During the survey in 1944–45 all flowing wells in the Carrizo sand were visited, and when it was possible the flow of each well was measured with a current meter or weir, or with a 10-gallon container. Where measurements could not be made the flow was carefully estimated. Altogether, 76 flowing Carrizo wells were visited. The rate of flow varied from less than a gallon a minute to as much as 500 gallons a minute (see well records, pp. 118–143). The combined flow from the 76 wells amounted to about 10,300 gallons a minute, the equivalent of 14.8 million gallons a day or 16,700 acre-feet a year. Of the total flow, it is estimated that an average of about 6,300 gallons a minute is regulated by valves and put to beneficial use for irrigation or other purposes. The remaining 4,000 gallons a minute (about 5.8 million gallons a day) is mostly wasted, although some of it is used to supply artificial lakes for hunting and fishing or to maintain a flow in streams for watering stock during dry periods. These figures were compiled mostly from measurements made in May 1944 during a period when very little water was needed for irrigation and when most of the pumps, with which the nonflowing irrigation wells and some of the flowing wells are equipped, were idle. At such a time the artesian head in the aquifer is higher and the waste of water from the uncontrolled wells is somewhat greater than during periods of heavy irrigation.

TOTAL WITHDRAWALS IN 1929–30 COMPARED WITH THE TOTAL IN 1944–45

The following table gives the estimated withdrawals of water from the Carrizo sand in 1929–30 and in 1944–45. The figures show that the withdrawals were about 6,000 acre-feet, or 63 percent, greater in the last period than in the first one.

Withdrawals of ground water from the Carrizo sand in Atascosa County, 1929–30 and 1944–45

Disposal	1929–30		1944–45	
	Acre-feet	Million gallons a day	Acre-feet	Million gallons a day
Irrigation	3,200	2.9	7,900	7.0
Public, industrial, domestic, and stock	(1)	(1)	1,100	1.0
Wasted	6,300	5.6	6,500	5.8
Total	9,500	8.5	15,500	13.8

[1] Not computed but small.

NET DECLINE IN ARTESIAN HEAD

In 1929–30 Lonsdale recorded the artesian head as shown by the shut-in pressures in 72 Carrizo wells in Atascosa County. In 1944–45 such measurements were made in 76 Carrizo wells, of which 31 had been measured by Lonsdale. The table below gives the results of the two sets of measurements for comparison:

Artesian head [1] *in wells in Carrizo sand in Atascosa County, Tex., in 1929–30, May-June 1944, and August 1945, and net decline*

Well No.	Artesian head in feet above (+) or below (−) land surface			Net decline (feet)	
	1929–30	May-June 1944	August 1945	1929–30 to 1944	1929–30 to 1945
164	+17	+7.2	+7.0	9.8	10.0
165	−34.5	−38.1	−39.3	3.6	4.8
168	−90	−99.6	−101.2	9.6	11.2
169	−69	−76.2	−79.2	7.2	10.2
177	+5	+2.0	----------	3.0	----------
179	+18	+2.0	----------	16.0	----------
187	−32	−42.8	−45.3	10.8	13.3
188	−12	−30.6	----------	18.6	----------
196	+3	−8.9	----------	11.9	----------
197	+23	+7.5	----------	15.5	----------
203	+5	−.2	−1.8	5.2	6.8
205	+28	+9.0	----------	19.0	----------
209	−28	−35.6	−36.9	7.6	8.9
211	+1	−9.0	----------	10.0	----------
213	−5	−19.3	−22.0	14.3	17.0
214	−25	−32.4	−34.6	7.4	9.6
215	+6	−2.5	----------	8.5	----------
218	+30	+14.0	----------	16.0	----------
224	+9	−4.2	−6.1	13.2	15.1
226	+15	+.5	−3.2	14.5	18.2
230	+6	−5.0	----------	11.0	----------
234	+50	+32.5	----------	17.5	----------
244 and 77 [2]	+96	+71.5	----------	24.5	----------
246	−12	−22.8	−24.7	10.8	12.7
249	+55	+29.5	----------	25.5	----------
250	−6.5	−20.0	----------	13.5	----------
253	+2	−6.0	----------	8.0	----------
299	−27.5	−36.4	----------	8.9	----------
337	−60	−68.0	−69.7	8.0	9.7
342	+15	+1.5	----------	13.5	----------

[1] Shown by water level or shut-in pressure.
[2] Measurement made in well 244 in 1929–30 and in well 77 (about 50 feet from well 244) in 1944.

The largest decline between 1929–30 and 1944 occurred in well 244 at Pleasanton and in well 249 about 3 miles west of Pleasanton, the drop in head amounting to about 25 feet. Both these wells have flowed unchecked for many years. Well 249 was flowing at the rate of 500 gallons a minute when it was measured in 1945. Well 244 had a flow of only 10 gallons a minute, but as the casing is in very poor condition the water probably is escaping into upper sands at a rate comparable to the flow of well 249 or greater.

Large declines of artesian pressure were observed in the Poteet area where the withdrawal of water is heaviest. The water levels or artesian pressure in 10 wells—Nos. 179, 188, 196, 197, 205, 213, 218, 226, 230, and 235—showed declines ranging from 11 to 19 feet and averaging 15.4 feet between 1929–30 and 1944. Two of these wells, Nos. 213 and 226, remeasured in 1945, showed a further decline of

2.7 feet. In other parts of the Poteet area the decline ranged from 3 to 10 feet between 1929–30 and 1944. In well 246, about 1½ miles east of Charlotte, the decline amounted to 12.7 feet between 1930 and 1945. According to the owner of the well the water level was only 2 feet below the land surface in 1918. The decline from 1918 to 1945 was, therefore, about 21 feet. In the outcrop area of the Carrizo sand the water level in well 168 north of Poteet and in well 169 north of Leming were, respectively, 11.2 and 10.2 feet lower in 1945 than in 1930. The only available records of fluctuations in water levels in any of the wells during the intermediate years (1931 to 1943) are those obtained in well 62 by the owner, Mr. Cyril Hooge. These records give the results of 1 measurement each year in 1925, 1926, and 1937, 14 measurements in 1938, 5 in 1940, 1 measurement in 1941, and 1 in 1944. The well is about 3 miles east of Poteet in an area of heavy withdrawal. The following table gives the fluctuation in feet above or below the land surface:

Artesian head in well 62, shown by water level, in feet above (+) or below (—) land surface

Date	Water level	Date	Water level	Date	Water level
Jan. 1, 1925	+28.0	Oct. 15, 1938	+3.5	Aug. 10, 1939	+5.0
Jan. 1, 1926	+26.0	Oct. 17, 1938	+4.5	Oct. 1, 1939	+1.0
Sept. 1, 1937	+4.0	Oct. 22, 1938	+4.2	Feb. 1, 1940	+5.5
Jan. 1, 1938	+8.0	Oct. 24, 1938	+5.0	Feb. 12, 1940	+6.0
June 1, 1938	+8.0	Nov. 12, 1938	+6.8	Mar. 9, 1940	+3.5
Sept. 1, 1938	+4.0	Nov. 14, 1938	+6.8	Mar. 11, 1940	+4.5
Sept. 20, 1938	+5.5	Nov. 28, 1938	+7.0	Mar. 12, 1940	+3.5
Oct. 1, 1938	+3.2	Jan. 1, 1939	+7.5	Oct. 1, 1940	−2.0
Oct. 8, 1938	+3.2	Mar. 27, 1939	+6.0	Jan. 1, 1941	+4.5
Oct. 10, 1938	+4.2	Apr. 8, 1939	+2.5	May 8, 1944 [1]	+4.4

[1] Measured by R. W. Sundstrom.

When a well is allowed to flow, or is pumped, the artesian pressure (or water level) in the well drops, and a hydraulic gradient is established toward the well from all directions, the gradient taking the shape of an inverted cone surrounding the well. This cone spreads out if the discharge continues and becomes flatter with increasing distance from the well. If a number of wells are allowed to flow, or are pumped, the pressure cones tend to merge into a large depression, radiating out from the center of ground-water withdrawals. This is in accordance with the laws of hydraulics and in itself is no cause for alarm. A certain amount of decline in water levels or artesian pressures must occur in every area in which ground water is developed in considerable quantities. If the rate of withdrawal remains constant and the aquifer is not overdrawn, a state of equilibrium should be reached in a few years, and the decline should cease or become very small. On the other hand, the decline may be expected to continue as long as the rate of withdrawal increases. Only when the decline

persists year after year without a corresponding increase in the rate of withdrawals is there reason for apprehension. This may indicate a serious overdraft.

The decline of artesian pressures in the Carrizo wells of Atascosa County since 1929–30 has been caused in part by an increase in withdrawals from the aquifer of about 6,000 acre-feet a year, or about 63 percent of the draft in 1929–30. The effect of this increase is modified if not largely canceled in the figures on net decline between 1929–30 and 1944, shown in the table on page 112, because the seasonal withdrawals for irrigation where heavy when the measurements were made in 1929–30 and very light when the measurements were made in 1944. On the other hand, the drop in head between measurements in May 1944 and August 1945 may have been largely the result of the greater seasonal draft for irrigation during the last period. Whether or not the decline has reached approximate equilibrium for the present rate of pumping cannot be determined with certainty from the data at hand. It appears probable, however, that some further decline in water levels or artesian pressures may occur if the present rate of withdrawals is maintained. If the withdrawals are increased the rate of decline will be accelerated. As a result, flowing wells in which the artesian head is only slightly above the ground will cease flowing and the pumping levels in some of the wells, which are now equipped with centrifugal pumps may become so low that other types of pumps will have to be installed. On the whole, however, the evidence tends to show that the artesian reservoir is not being overdrawn and that it would sustain a somewhat greater draft without serious depletion. Further observations should throw additional light on this question.

It should be pointed out that the present consumption of water from Carrizo wells for all useful purposes—such as irrigation, public supply, and industrial use—could be increased about 70 percent without increasing the draft on the underground reservoir if the present annual waste of water were stopped.

QUALITY OF WATER FROM WELLS IN THE CARRIZO SAND

The table of analyses gives the results of chemical tests of water from 35 wells in the Carrizo sand in which the iron, bicarbonate, sulfate, chloride, and total hardness in the water were determined, and results of more complete analyses of water from 13 wells.

MOUNT SELMAN FORMATION

IRRIGATION

Water from the Mount Selman formation is used to some extent for irrigation in a few scattered areas 4 to 7 miles east of Pleasanton. In 1929–30, nine irrigation wells were reported as drawing from this

formation. Since 1930 nine new wells have been drilled but several of the earlier wells have been abandoned. In 1945, 13 Mount Selman wells were being used for irrigation, and somewhat less than 400 acres were irrigated from them.

PUBLIC, DOMESTIC, AND STOCK USE

Wells in sands of the Mount Selman formation furnish the public water supplies of Pleasanton, Coughran, and Christine. The total average consumption by the three towns does not exceed 80,000 gallons a day, according to estimates by the water superintendents. Many wells in sands of the Mount Selman formation are used for domestic purposes and stock in the central and south-central part of the county, but the total consumption for these purposes is not large.

WASTE OF WATER

In May 1944 the discharge of 22 flowing wells in sands of the Mount Selman formation was measured. The flow of the wells ranged from less than a gallon a minute to as much as 100 gallons a minute. The total discharge of the 22 wells amounted to 714 gallons a minute (about a million gallons a day). Of this amount it is estimated that about 420 gallons a minute (0.6 million gallons a day) is largely wasted.

QUALITY OF WATER

The table of analyses gives the results of determinations of the amount of iron, bicarbonate, sulfate, chloride, and total hardness present in the water from 29 wells and more complete analyses of water from 11 other wells in sands of the Mount Selman formation.

COOK MOUNTAIN, YEGUA, AND JACKSON FORMATIONS

Wells in the Cook Mountain, Yegua, and Jackson formations furnish water for domestic purposes and stock in the central and southern parts of the county. The total withdrawal of ground water from these formations in Atascosa County is relatively small. In 1944 the water levels were measured in a few of the wells, and samples of water were obtained from a few of them also.

SUMMARY

The total withdrawal of ground water in Atascosa County from the Carrizo sand, the principal aquifer, increased from about 9,500 acre-feet a year (8.5 million gallons a day) in 1929–30 to about 15,500 acre-feet a year (13.8 million gallons a day) in 1944–45. The amount used for irrigation increased during the period from 3,200 acre-feet a year (2.9 million gallons a day) to 7,900 acre-feet a year (7.0 million gallons a day.) The total annual waste of water in 1944–45—6,500

acre-feet (5.8 million gallons a day)—was about the same as in 1929–30. The average waste from the individual wells was less in 1944-45, but the number of wells showing a waste was greater.

The increase in total withdrawals from the formation has been accompanied by a general decline in artesian head, the net decline between 1929–30 and 1944 ranging from 3 to 25 feet. Equilibrium probably has not yet been reached, and some further decline is to be expected if the present rate of withdrawals is maintained. If the rate of withdrawals is increased the present rate of decline will be accelerated. This will cause additional wells to cease flowing and may lower the water levels to such an extent in some of the wells equipped with centrifugal pumps that the pumps will not deliver water.

On the whole, the evidence tends to show that the artesian reservoir is not being overdrawn and that it will sustain a somewhat greater draft. Further observations, which are expected to be made, should throw additional light on this question.

If the present waste of water from wells in the Carrizo were stopped the present consumption of water for all useful purposes could be increased about 70 percent without increasing the draft on the underground reservoir. Every man who has a flowing well or pumping plant should realize that he and his neighbor—in fact, the whole community—are drawing from a common reservoir and that any depletion of this reservoir is suffered by all.

The discharge of ground water from flowing wells in the Mount Selman formation amounts to about 1,100 acre-feet a year—the equivalent of about 1 million gallons a day. The water pumped from nonflowing wells does not add materially to this figure. The decline of artesian head in wells in the formation since 1929-30 has been comparatively great. This indicates that the formation cannot be expected to yield very large quantities of water. Some water is wasted from Mount Selman wells, but the waste is small.

The total withdrawal of ground water from the Cook Mountain, Yegua, and Jackson formations in Atascosa County is relatively small.

WELL RECORDS

Records of wells in Atascosa County, Tex.

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level	
									Above (+) or below (−) measuring point (feet)	Date of measurement
	Poteet:									
1	9¼ miles north	West Land Security Co.	Frank Burkett	1929	203	12, 12½	Carrizo sand			
2	do	do		1942	700	10, 7.5	Indio formation	1.0	−163.72	May 31, 1944
3	8¾ miles north	R. W. Hamilton		1942	169	6	Carrizo sand			
4	do	do		1938	169	6	do	1.5	−140.36	May 31, 1944
5	4 miles north	H. Koehler	D. Pegg	1931	450	10, 6⅝	do	1.5	[4] 50 61.14	1931 May 31, 1944
6	do	do		Old	310	6	do			
7	4¼ miles northwest	Mrs. Maggie E. Forest	J. R. Johnson	1933	500	12	do			
8	3¼ miles northwest	Rudolph Stumberg	Craven	1938	165	6	do			
9	3 miles northwest	do	do	1931	265	6	do			
10	2½ miles north	Joe Foster	do	1934	550		do			
11	2 miles north	Mrs. Sutton			900±	4		0	−16.65	May 24, 1944
12	do	do			900					
13	2 miles northwest	Mrs. Fine Arnold		1929	550	4	Carrizo sand			
14	2¼ miles northwest	E. J. Fasler	Frank Burkett	1939	540	10, 5⅞	do	0	[4]−32	1939
16	4 miles northwest	John F. Hearn	Boone & Ormand	1938	300±		do			
17	4¼ miles northwest	John L. Denson	do	1938	300±	6	do	−20.0	−8.37	June 1, 1944
18	do	Everett Russel	— Schwartz	1936	300±	8, 6	do	.0	[4]−14	1936
19	4 miles west	Ned Stinson		1931?		4	do			
21	4½ miles west	L. C. Scott	Frank Burkett	1934	460	8, 6	do			
22	4¾ miles west	Theo Ziegmond	do	1926	480	8, 6	do			
23	do	T. J. Irvine	Boone & Ormand	1941	270	6, 4½				
25	9¼ miles west	J. N. Escalera			350±	6				
26	4½ miles west	Charles Thomas	Frank Burkett							May 22, 1944
27	4¾ miles west	Walter F. Locke		1939	630	10	Carrizo sand	3.0	+16.5	do
28	4¼ miles west	do	Frank Burkett		498	8, 6	do	1.5	+17.0	do
29	4 miles west	do	do	1938	475	8, 6	do	0	+7.5	do
30	do	do	do			6		0	+6.5	do
31	4½ miles	F. Holberg	do	1935	465	8, 6	Carrizo sand	0		do
32	4¼ miles west	F. Holberg	Frank Burkett	1932	476	8, 6	do			
33	4½ miles west	C. E. Simmons	do		600±	8	do	0	−26.55	May 22, 1944
34	do	A. E. Tutschke	Boone & Ormand	1940	521	8, 6	do	.2	−10.75	May 30, 1944
35	4 miles west	S. C. Zigmond	Frank Burkett	1926	560	6	do			
36	3 miles west	W. E. Hess		1930	630	4	do	0	+15.3	May 30, 1944

No.	Method of lift [3]	Use of water [3]	Rate of flow		Remarks
			1929–30 (gallons per minute)	April–June 1944 (gallons per minute)	
1	T, E	Ind			Perforated from 130 to 149 feet. Temperature, 74° F. See log.
2	T, E	Ind			Pumping yield, 400 gallons a minute. 100 feet perforated between 500 and 700 feet.
3	C, E	D, S			Casing perforated from 149 to 169 feet.
4	None	N			Casing perforated from 129 to 169 feet.
5	T, G	Irr			Casing perforated from 410 to 450 feet.
6	C, E	D, S			
7	T, G	D, S, Irr			Perforated from 400 to 450 feet. Pumping yield, 600 gallons a minute.
8	T, G	Irr			
9	T, G	Irr			
10	T, G	Irr			
11	None	N			Ceased flowing before 1927.
12	Cf, G	D, S, Irr			Do.
13	T, G	Irr			
14	T, E, 5	Irr			Casing perforated from 520 to 540 feet.
16	Cf, G	Irr			
17	Cf, G	D, S, Irr			
18	C, Cf, E, G	D, S, Irr			Casing: 8-inch to 80 feet; 6-inch to bottom; lowermost 60 feet perforated.
19	Cf, G	D, S, Irr			
21	T, G	D, S, Irr			Casing perforated from 380 to 460 feet.
22	T, G	D, S, Irr			Casing perforated from 400 to 480 feet.
23	Cf, G	D, S, Irr			Casing perforated from 230 to 370 feet.
25	T, G	Irr			
26	Flows	D, S		97	Temperature, 80° F.
27	----do	Irr		200	Do.
28	----do	Irr		405	Casing perforated from 438 to 498 feet. Temperature, 79° F.
29	----do	Irr, D, S		322	Casing perforated from 435 to 475 feet. Temperature, 78½° F.
30	----do	D, Irr		[5] 75	
31	----do	Irr		[5] 75	Casing perforated from 425 to 465 feet.
32	T, G	D, S, Irr			Pumping yield, 300 gallons a minute. Casing perforated from 396 to 476 feet.
33	T, E, 7½	D, S, Irr			
34	Cf, G	D, S, Irr			Casing perforated from 421 to 521 feet.
35	Cf, E, 7½	D, S, Irr			Pumping yield, 500 gallons a minute. Casing perforated from 480 to 560 feet.
36	Flows	D, S, Irr		[5] 200	

See footnotes at end of table.

885437—50——8

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level: Above (+) or below (−) measuring point (feet)	Water level: Date of measurement
	Poteet—Continued									
37	2½ miles west	J. R. Shearrer		Old		6		0.4	−40.12	May 29, 1944
38	do	do		1940	540	8	Carrizo sand	.4	+.40	do
39	2¾ miles west	O. E. Haley		1937	600±	6, 2	do	0	0	May 23, 1944
40	2¼ miles west	Max Schraeder	Boone & Ormand	1936	700	6	do	0		do
41	3¼ miles southwest	H. D. Barrow				6	do	0		do
42	1¾ miles west	Rev. Jose C. Cabrena	Boone and Ormand		775	8, 6	do	0		do
43	1½ miles west	W. J. Parker	do	1935	764	8, 6	do	0	[4]−20	1942
44	1 mile west	Louis Hooge		1938		6	do	1.0	−11.22	May 29, 1944
46	1 mile northwest	Mrs. W. H. Slimm	Boone and Ormand	1943	807	8⅝, 6⅝	do	0	[4]−29	
47	do	R. F. Robbins and D. G. Gordon.		1932	540	6	do			
48	¼ mile east	M. Ernst	Boone and Ormand	1928	850	5⅜	do			
49	1 mile east	D. E. Shearrer						2.0	+7.75	Apr. 25, 1944
50	1½ miles southeast	W. B. Etheridge				8		0		May 24, 1944
51	1¾ miles southeast	do		1938	950±	6	Carrizo sand	0		do
52	2 miles southeast	Garcia Bros		1923	950	4	do	0		do
53	2½ miles southeast	E. H. Shearrer				6	do	2.0	+34.0	May 12, 1944
54	5¼ miles south	C. P. Parker	M. Thierry	1944	1,458	6	do	0		May 9, 1944
55	5 miles southeast	Simon Rodriquez	Boone and Ormand		1,405	8, 6, 4½	do	2.0	+15.4	do
56	5½ miles southeast	C. P. Carter			1,900±	8, 3	Indio formation and Carrizo sand.	0	[4]−11	1944
57	5¼ miles southeast	W. R. Tagart	Boone and Ormand	1937	1,500	8	Carrizo sand	2.5	+18.1	May 9, 1944
58	3 miles southeast	J. H. Rogers	Frank Cook	1935	1,000±	6	do	0		May 12, 1944
59	3¼ miles southeast	do		1939	1,080	6	do	3.5	+12.0	do
60	3 miles southeast	A. F. Aigner		1934	1,070	6	do			
61	2¾ miles southeast	Cyril Hooge	— Gillam	1925	1,010	6	do	2.0	[4]+26 +2.65	Jan. 1, 1925 May 8, 1944
62	2¾ miles southeast	Cyril Hooge	— Pegg	1937	1,090	8	do	1.3	+3.21	do
63	3¼ miles southeast	I. Rakowitz		1932	1,160	6	do	1.0	+4.0	May 12, 1944
64	3¼ miles east	do		1925	1,051	6	do	1.5		do
65	3½ miles east	Ben Rakowitz	Boone & Ormand	1934	1,070	6, 5	do	3.5		do
66	2¼ miles east	Pancho Briones		1943	1,000±	8	do	.5	−17.51	do
67	2 miles east	H. A. Jaroszewski		1936	700	4		0		do

No.	Method of lift [2]	Use of water [3]	Rate of flow		Remarks
			1929–30 (gallons per minute)	April–June 1944 (gallons per minute)	
37	C, E, ¼	D, S			Formerly flowed.
38	Flows Cf, E, 5	D, S, Irr		49	
39	Flows Cf, G	Irr		1	
40	Flows Cf, G	D, S, Irr		130	Casing perforated from 660 to 700 feet. Temperature, 79° F.
41	Flows	D, S, Irr		[5] 150	Temperature, 81° F.
42	do	D, S, Irr		256	Casing perforated from 735 to 775 feet.
43	T, G	D, S, Irr			Casing perforated from 684 to 764 feet.
44	Cf, G	Irr			
46	T, G	Irr			Casing perforated from 707 to 807 feet.
47	T, G	D, S, Irr			
48	Cf, G	Irr			Cased to 765 feet.
49	Flows, Cf, G	Irr		30	
50	Flows	S, Irr		97	Temperature 83° F.
51	do	Irr			
52	do	Irr		[5] 75	Temperature, 84° F.
53	do	S, Irr		247	Temperature, 85° F.
54	do	Irr		335	Casing perforated from 1,250 to 1,458 feet. Temperature, 90° F. See log.
55	do	D, S, Irr		[5] 75	Casing perforated from 1,257 to 1,385 feet. Temperature, 89° F. See log.
56	Cf, G	D, S, Irr			
57	Flows	D, S, Irr		87	
58	do	D, S, Irr		250	Temperature, 86½° F.
59	do	Irr		175	
60	Cf, G	D, S, Irr			Casing perforated from 1,010 to 1,070 feet. Formerly flowed; stopped flowing in 1939 or 1940.
61	Flows	D		5	Cased to 850 feet.
62	Flows, Cf, G	D, S, Irr		[5] 30	Casing perforated from 1,050 to 1,090 feet. Pumping yield, 150 gallons a minute. Temperature, 85° F.
63	do	S, Irr		120	Casing perforated from 1,010 to 1,160 feet. Pumping yield, 300 gallons a minute. Temperature, 85° F.
64	Flows	Irr		120	Cased to 700 feet. Temperature, 85° F.
65	do	S, Irr		174	Temperature, 84½° F.
66	Cf, G	Irr			
67	A, G	D, S, Irr			

See footnotes at end of table

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above (feet) [1]	Water level	
									Above (+) or below (−) measuring point (feet)	Date of measurement
	Poteet—Continued									
68	2½ miles east				±	6		1.4	−56.59	June 5, 1944
69	3½ miles east	T. O. Rakowitz	Jake Wolf	1932	1,000	6⅝	Carrizo sand	0	[4]−10	May 1944
70	4 miles east	J. E. Jasik	do	1935	1,009	8, 6⅝	do	0	+0	May 12, 1944
72	7¾ miles northeast	G. Weynand			120±	5	do	0	−81.89	June 5, 1944
73	6 miles east	Dan McKenzie	W. R. Cavender	1942	320	6⅝		1.0	−47.21	do
74	6¾ miles east	J. Garza & Son		1940	287	8				
75	do	Oscar Persyn	— Hickman	1939	1,100	8, 5	Carrizo sand	0	+.85	June 5, 1944
	Pleasanton:									
76	1½ miles north	Mrs. W. Campbell	Tom Draper	1931	1,200±	4	do	3.0	+37	do
77	1¼ miles north	Missouri Pacific Railway Co.		1928	1,550±	8	do	2.5	+69	May 9, 1944
78	1½ miles west	O. P. Leonard	— Schwartz		701	6, 4	Mount Selman formation.	1.5	−.5	June 3, 1944
79	10¾ miles south	E. G. Hendricks	Boone & Ormand	1943	1,325			0		May 17, 1944
80	do	Clyant Smith		Old	285±	4		0		do
81	4½ miles south	M. L. Thompson	Paul Draper	1935	1,600±	5	Carrizo sand	0		May 18, 1944
82	4¼ miles south	Humble Oil & Refining Co., No. 1.	A. H. Masiran	1942	640	7	Mount Selman formation (post-Bigford).	0	[4]−20	1942
83	2¾ miles southeast	Roy Quillian	Humble Oil & Refining Co.	1939	2,060	4	Carrizo sand	2.5	+11.3	May 18, 1944
84	7¾ miles southeast	C. L. Downey		1940	1,000	6	Mount Selman formation (post-Bigford).	4.0	+12.0	do
85	2¾ miles southeast	S. L. Batchelor	Boone and Ormand	1941	1,943	6, 4	Carrizo sand	2.0	+36	May 9, 1944
86	1¾ miles southeast	Joe K. Williams	Tom Draper	1930	1,750	5 3/16, 3½	do	3.0	+38	do
87	3½ miles east	C. D. Hammons			400±		Mount Selman formation (post-Bigford).	0		1944
88	3¼ miles east	Dr. A. C. Hunter	Boone and Ormand	1937	600	6	do	0		May 18, 1944
89	do	F. DeBarros			700±	6	do	0		do
90	do	do			700±	6	do	0		do
91	4½ miles northeast	Guy S. Combs				6		2.0	−22.34	May 10, 1944
92	5½ miles east	Roscoe Pegg				4		1.0	+2.97	do
93	do	Mrs. Ola Richardson			1,100±	6	Mount Selman formation (post-Bigford).	0		do
94	5 miles east	E. H. Marek			1,200	6	do	2.4	−19.89	do
95	4¾ miles east	Oscar Kreitz	— Brown	1929	900	6	do	0	+9.85	do

No.	Method of lift [2]	Use of water [3]	Rate of flow		Remarks
			1929–30 (gallons per minute)	April–June 1944 (gallons per minute)	
68	C	N			
69	Cf	Irr			
70	Flows, Cf, E	D, S, Irr		1	Casing: 8-inch to 100 feet; 6⅝-inch from 100 to 1,009 feet.
72	C, G	S			
73	C, W	S			Casing perforated from 270 to 320 feet.
74	Cf, G	Irr			
75	Flows, Cf, G	D, S, Irr		[5] 150	Casing perforated from 860 to 900 feet and from 1,060 to 1,100 feet.
76	Flows	D, S		92	
77	do	P, Ind		233	Supplies North Pleasanton and locomotives. Drilled to replace well 244. Temperature, 92½° F.
78	C, E	D, S			
79	Flows	D, S, Irr		[5] 100	Temperature, 92° F.
80	do	D, S		2½	Temperature, 78½° F.
81	do	D, S, Irr		30	Temperature, 90½° F.
82	A, G	Ind			M. L. Thompson lease. Casing perforated from 596 to 614 feet and from 620 to 640 feet. See log.
83	Flows, Cf, G	S			Casing perforated from 2,015 to 2,060 feet. Temperature, 95½° F.
84	Flows	D, S		24	Casing perforated from 940 to 1,000 feet. Temperature, 86° F.
85	do	D, S, Irr		217	Casing: 6-inch to 1,033 feet; 4-inch from 1,017 to 1,943 feet; 103 feet perforated. Temperature, 98° F. See log.
86	do	D, S, Irr		151	Casing: 5¾6-inch to 1,150 feet; 3½-inch from 1,150 to 1,750 feet; 80 feet perforated. Temperature, 95½° F.
87	do	D, S, Irr			
88	do	D, S, Irr			Cased to about 350 feet. Temperature, 78° F.
89	do	D, Irr		33	Cased to 525 feet. Temperature, 77° F.
90	do	D, S, Irr		[5] 50	
91	C, H	D, S			Flowed until about 1934.
92	Flows	D, S, Irr		[5] 10	Temperature, 85° F.
93	do	D, S, Irr		32	Do.
94	A, G	D, S, Irr			
95	Flows, C, E	D, S, Irr		46	

See footnotes at end of table.

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level	
									Above (+) or below (−) measuring point (feet)	Date of measurement
	Pleasanton—Continued									
96	4¾ miles east	L. D. Haag		1930	906	10	Mount Selman formation (post-Bigford).	0		May 10, 1944
97	6¾ miles east	M. S. Coughran	George Brown	1928	700±	4	Mount Selman formation.	0		May 18, 1944
98	8¾ miles east	M. F. Flores	Boone & Ormand	1943	2,010	6, 4, 2	Carrizo sand	1.5	+61	May 10, 1944
99	7½ miles east	Ralph Coughran	George Brown	1908	550±	4	Mount Selman formation.	0		May 18, 1944
100	7 miles east	Joe A. Coughran	do	1912	600±	4½	do	1.8	−18.39	do
101	6¾ miles east	F. M. McCarty		1938		6	Carrizo sand	1.0	+52	May 10, 1944
102	10¼ miles east				1,000±	4	Mount Selman formation.	6.3	+4.0	do
103	12¾ miles east					6⅞			+10.5	Apr. 24, 1944
	Campbellton:									
104	11½ miles north			Old		4		0		May 16, 1944
105	9½ miles north	E. A. Kinsel	— Palacios			4½		1.0	−45.56	do
106	9 miles north	do		1937	1,300±	4½	Mount Selman formation.	0	+1	do
107	7¾ miles north	T. W. Smith		Old	350	4¾		1.5	−21.50	do
108	8¾ miles east	Felix Henke			250	4				
109	8½ miles east	do			765	4	Yegua formation		96	
110	8¼ miles east	do		1941	800±					
111	6 miles east	H. R. Smith and J. E. Mowinckle.		1932	4,168	7, 5⅜16	Carrizo sand	2.0	+75	May 17, 1944
112	3¾ miles east	do		1934	4,200	7, 5⅜16	do	0		do
113	7 miles northwest	J. D. Harrison			1,600±	4	Mount Selman formation.	0		May 16, 1944
114	3 miles northwest	Harrison & Aberorombie		1931	3,600±	8		4.0	+36.5	May 25, 1944
115	do	do		1931	3,600±	6		0		do
	Charlotte:									
116	2¾ miles east	R. B. Whipple		1928	842		Mount Selman formation.			
117	2¼ miles west	Humble Oil & Refining Co.	Humble Oil & Refining Co.	1944	1,520	9⅝	Carrizo sand	3.8	+40.5	May 11, 1944

No.	Method of lift [2]	Use of water [3]	Rate of flow		Remarks
			1929-30 (gallons per minute)	April–June 1944 (gallons per minute)	
96	Flows	D, S, Irr			
97	Flows	D, S			
98	do	D, S, Irr		36	Casing: 6 inch to 70 feet; 4 inch to 1,060 feet; 2 inch to 2,010 feet; 80 feet perforated. Temperature, 102° F.
99	Flows, C, W	D, S		17	Temperature, 83° F.
100	Cf, E	D, S			Flowed about 20 years ago.
101	Flows, C, G	D, S, Irr		221	Temperature, 93½° F.
102	do	D, S		7	Temperature, 85° F.
103	Flows	S		60	Oil test. Temperature, 93° F.
104	do	S		2½	Temperature, 80° F.
105	C, W	S			
106	Flows	S		1⅛	Temperature, 85½° F.
107	C, W	D, S			Flowed until about 1900.
108	C, W	S			
109	C, W	S			
110	C, W	S			Converted oil test. See log.
111	Flows	D, S, Irr		[5] 400	Casing: 7-inch to 3,940 feet; 5⅜16-inch from 3,912 to 4,168 feet. Reported flow 583 gallons a minute in winter when drilled. Temperature, 147° F.
112	do	D, S, Irr		[5] 200.0	Casing: 7-inch to 3,940 feet; 5⅜16-inch from 3,940 to 4,196 feet. Water also used to heat houses. See log. Temperature, 143° F.
113	do	D, S		40	Temperature, 102° F.
114	do	S			Overflow from lake fed by this well and well 115, measured at 112 gallons a minute. Temperature, 109½° F.
115	do	D			
116	C, G	D, S			
117	Flows	S, Ind		198	Converted oil test on E. J. Pruitt lease. Casing perforated from 1,470 to 1,520 feet. Temperature, 97° F.

See footnotes at end of table

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level	
									Above (+) or below (−) measuring point (feet)	Date of measurement
	Charlotte—Continued									
118	2 miles west	E. J. Pruitt	Boone & Ormand	1943	548	4	Mount Selman formation.			
119	do	do	do	1944	1,054	4				
120	4½ miles southwest	M. M. Davis	Humble Oil & Refining Co.	1940			Carrizo sand			
121	12 miles south	Lee Minten						0		June 3, 1944
122	11¼ miles south	M. B. Hughey		1933	1,012	4	Mount Selman formation.	1.5	−14.59	do
123	13½ miles south	do		1933	860	8	do	7.0	+16.5	do
[6] 160	Rossville, 3¼ miles north of	C. E. Dillon			136	4	Carrizo sand	0	−108	1929–30
161	2½ miles north of	G. W. Beachman			125	4½	do	0	−105	1929–30
162	4 miles west of	A. Cortinas	Rio Bravo Oil Co		4,080	8, 6, 4				
163	5½ miles northwest of	Mrs. Elsie Heberer	T. Byram	1927	380	6	Carrizo sand	0	+12	1929–30
										June 2, 1944
164	6 miles southwest of	R. Ross	do	1926	420	6	do	0	+17	1929–30
								5.3	+1.9	June 2, 1944
165	2¼ miles southwest of	H. E. Whittet	H. E. Whittet	1910	250	4	do	.3	−34.8	1929–30
									−38.4	June 2, 1944
166	Poteet, 8½ miles north of	R. W. Hamilton		1926	175	6	do	0	−140	1929–30
167	7½ miles north of	Osborne Gravel Co	Osborne Gravel Co	1928	187	4	do	0	−142	1929–30
168	5½ miles north of	Guy A. Bryan			120	4	do	1.0	−91	1929–30
									−100.6	May 31, 1944
169	Leming, 4 miles north of	R. L. Bruce		1925	104	4	do	0	−69	1929–30
								1.3	−77.5	June 5, 1944
170	do	Schultze Bros		1922	76	5	do	0	−28	1929–30
171	¾ mile north of	Van McKenzie			70	4	Mount Selman formation.	0	−40	1929–30
172	do	Dan McKenzie			66	5	do			
174	Pleasanton, 10 miles northeast of.	C. A. Moehrig			455	4½	do	0	−82	1929–30
175	Rossville, 5 miles south of	J. N. Escalera	T. Byram	1930	653	6, 5	Carrizo sand			
176	4½ miles south of	— Terrel	do	1926	620	5¾	do	0	+12	1929–30

No.	Method of lift [2]	Use of water [3]	Rate of flow		Remarks
			1929–30 (gallons per minute)	April–June 1944 (gallons per minute)	
118	None	N			Casing pulled. See log.
119	None	N			Well never used. Casing pulled. See log.
120	do	N			Plugged core test. Strong flow reported from Carrizo sand at 1,500 to 2,250 feet.
121	Flows	D, S			
122	C, W	D, S			Casing perforated from 952 to 1,012 feet.
123	Flows	D, S		10	Casing perforated from 820 to 860 feet.
160	C, W	D, S			
161	C, G	D, S			
162					Oil test. See log.
163	Flows	S	80	[4] 30	Water also at 180 feet.
164	do	S		1	
165	C, W	D, S			
166	C, E	D, S			Temperature, 73° F.
167	None	N			
168	C, W	D, S			
169	C, W	S			Lignite reported at 60 feet.
170	C, W	D, S			Lignite reported at 38 feet.
171	C, G	D			
172	C, G	D, S			
174	C, W	D, S			
175	C, W	D, S			Flowed when drilled.
176	Cf	N	150	None	

See footnotes at end of table.

895437—50——4

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level	
									Above (+) or below (−) measuring point (feet)	Date of measurement
177	Rossville, 4½ miles south of	—Terrel	T. Byram	1928	640	6	Carrizo sand	0	+5	1929–30
									+2	May 23, 1944
178	5½ miles south of	Bud McDonald	do	1928	707	6	do	0	+11	1929–30
										June 4, 1944
179	6 miles south of	J. Cumpian	do	1927	578	6, 4	do	0	+18	1929–30
									+2	May 23, 1944
180	5½ miles south of	T. Byram	T. Byram	1926	558	5	do	0	+37	1929–30
										May 23, 1944
181	4½ miles south of	do	do	1927	620	6		0	+9	1929–30
182	3½ miles south of	W. W. Farran	do	1927	680	6, 4½	Carrizo sand	0	+10	1929–30
									−6	1944
183	3 miles south of	A. N. Simmons	do	1926	468	6	do	0	−18	1929–30
184	do	E. Layer		1924	535	10	do	0	−12	1929–30
185	2½ miles southeast of	L. S. Martinez	T. Byram	1927	560	6	do	0	−57	1929–30
186	Poteet, 3½ miles northwest of.	August Mann	do	1924	422	8	do	0	−22	1929–30
187	3 miles northwest of	Dan Reed	J. Wolfe		666	10	do	0	−31	1929–30
									−42.9	June 1, 1944
188	do	do	do		525	4	do	.5	−12.5	1929–30
									−31.1	June 1, 1944
189	4½ miles west of	Felix Mikolajczyk			380	8	do	−12.4	−.3	May 30, 1944
199	do	do			380		do			
191	do	E. B. Neiswanger		1928	900±	8, 6		0	[4] −14	1943
192	3½ miles west of	— Mullins		1915	714	6	Carrizo sand	0	−10	1929–30
193	4 miles west of	C. E. Simmons		1928	627		do	0	−13	1929–30
194	3¾ miles west of	S. C. Zigmond		1914	707	6	do	0	−1	1929–30
195	3½ miles west of	Felix Mikolajczyk	H. T. Mumme	1926	715	8, 6	do	0	−5	1929–30
196	3¾ miles west of	F. Holberg		1914	600	6	do	2.0	+1	1929–30
									−10.9	May 22, 1944
197	do	Walter F. Locke		1914	600	6	do	0	+23	1929–30
									+7.5	May 22, 1944
198	2¼ miles west of	G. Jambers	G. P. Rainery	1911	1,000	8	do			
199	2 miles west of	T. Lozana	— Holder	1924		6	do			
200	2½ miles west of	O. E. Haley	H. T. Mumme	1909	600	6	do	0	+1	1929–30

No.	Method of lift [2]	Use of water [3]	Rate of flow		Remarks
			1929–30 (gallons per minute)	April–June 1944 (gallons per minute)	
177	Flows	D, S	25	6	
178	do	D, S, Irr	50	[5] 5	
179	Flows, T, G	D, S, Irr	100	[5] 20	
180	Flows	S	350	¼	
181	T, E	D, S, Irr	120	None	Well repaired and now also draws water rom higher sands.
182	Flows	S			Well tapped below ground surface to allow it to flow into earth tank.
183	T, G	D, S, Irr			
184	Cf, G	D, S, Irr			
185	T, G	D, S, Irr			
186	T, G	Irr			
187	None	N			
188	do	N			
189	Cf, G	D, S, Irr			
190	Cf, G	D, S, Irr			
191	Cf, G	D, S, Irr			
192	Cf, G	D, S, Irr			
193	Cf, G	Irr			
194	None	N			Caved. Abandoned.
195	T, G	D, S, Irr			
196	A, G	Irr			
197	Flows	Irr	350	135	Temperature, 78° F.
198	T, G	Irr			
199	Cf, E	D, S			
200	None	N	5	None	Formerly flowed 250 gallons a minute.

See footnotes at end of table.

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level: Above (+) or below (−) measuring point (feet)	Water level: Date of measurement
201	Poteet, 2½ miles southwest of	J. W. Willborn	T. Byram	1929	642	6, 4½	Carrizo sand	0	+15	1929-30
										May 23, 1944
202	1½ miles northwest of	W. C. Church	G. Gilland	1926	1,040	8, 6	do	0	−27.8	1929-30
									−37	1942
203	1½ miles north of	H. Wharton	do	1926	600	6	do	1.2	+3.8	1929-30
									−1.4	May 24, 1944
204	1 mile north of	C. E. Hurley		1926	918	6	do	0	+1	1929-30
205	do	J. N. Donaho	G. Gilland	1926	881	4, 6	do	0	+28	1930-30
									+9	1943
206	North edge of	J. M. Chittim estate		1904	850	8	do	0	−5	1929-30
207	¾ mile northwest of	Mrs. W. H. Slimm				6	do	2.0	−31.6	May 29, 1944
208	1 mile west	Louis Hooge		1910	840	6	do			
209	½ mile northwest of	J. Ward				4, 6	do	1.0	−29	1929-30
									−36.6	June 1, 1944
210	½ mile north of	C. A. Reed		1911		4, 8	do	0	+5	1929-30
211	¾ mile north of	S. Hughes	T. Byram	1928	720	6	do	0	+1	1929-30
								−6.0	−3.0	May 24, 1944
212	do	H. L. Ulbrich	— Brown	1926	800	4	do	0	+5	1929-30
213	2½ miles northeast of	Morris Stern			850	6	do	.5	−5.5	1929-30
									−19.8	June 5, 1944
214	1 mile northeast of	J. V. Gates				8	do	.8	−25	1929-30
									−33.2	May 12, 1944
215	Northwest edge of	W. J. Hallmark et al				8	do	0	+6	1929-30
									−2.5	June 1, 1944
216	In Poteet	J. M. Chittim estate	H. T. Mumme	1910	840	6	do	0	+20	1929-30
217	do	do	do	1912	840	6	do	0	+28	1929-30
218	do	City of Poteet	J. Wolfe	1928	835	6	do	2.0	+28	1929-30
									+12	Apr. 25, 1944
219	South edge of	J. M. Chittim estate	H. T. Mumme	1917	840	6	do	0	+20	1929-30
220	¼ mile south of	do	do	1909	840	4½	do	0	+10	1929-30
										May 23, 1944
221	¾ mile south of	S. Blount	G. Gilland	1926		6	do	0	+42	1929-30
										May 23, 1944
222	Southeast part of	M. Ernst		1910	840	6	do			1929-30
223	do	W. M. Smelley		1927	927	4	do	0	+7	1929-30

No.	Method of lift [3]	Use of water [3]	Rate of flow		Remarks
			1929–30 (gallons per minute)	April–June 1944 (gallons per minute)	
201	Flows	D, S, Irr	250	125	Temperature, 79° F.
202	T, G	D, S, P, Irr			
203	Cf, G	D, S, Irr	50	None	
204	Cf	Irr	10	None	
205	Flows	D, S	250	225	Temperature, 79½° F.
206	Cf, E	D, S, Irr			Originally flowed 216 gallons a minute. Temperature, 80° F.
207	C, W	D, S			Formerly flowed.
208	None	N			
209	C, H	N			
210	Cf, G	D, S, Irr	50	None	Original head +30 feet.
211	Cf, G	Irr			
212	None	N			Abandoned.
213	C, W	S			
214	C, W	S			
215	Cf, E	D, S, Irr	100	None	
216	None	N	250	None	
217	do	N			Do.
218	Flows, Cf, E	P	50		
219	Flows	Irr	500	[4] 75	
220	do	Irr	50	5	
221	do	D, S, Irr	350	130	
222	None	N	50	None	Abandoned about 1930.
223	Cf, G	D, S, Irr	100	None	Flowed in 1930.

See footnotes at end of table.

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level: Above (+) or below (−) measuring point (feet)	Water level: Date of measurement
224	Poteet, southeast part of	F. G. Williams	H. T. Mumme	1914	840	4	Carrizo sand	0	+9	1929–30
									−4.2	May 24, 1944
225	½ mile east of	M. Myers		1911		6,4	do	0	+10	1929–30
										May 24, 1944
226	½ mile southeast of	J. H. Hildreth et al		1911		6	do	0	+15	1929–30
									+.5	May 24, 1944
227	1 mile south of	Dr. — Albright		1925		6	do	0	+7	1929–30
										May 24, 1944
228	1½ miles south of	James Lang	G. Gilland	1926		6	do	3.0	+26.5	May 24, 1944
229	¾ mile east of	C. L. Spence			840	6	do	0	−5	1929–30
230	do	E. A. Gomez			1,000	6,4	do	0	+6	1929–30
									−5.0	May 24, 1944
231	do	W. B. Etheridge			934	8,6	do	0	+15	1929–30
										May 24, 1944
232	2½ miles southeast of	J. A. Burger	I. U. Bettison	1912	1,245	8,6	do	0	+5	1929–30
										May 24, 1944
233	2 miles southeast of						do	0	+35	1929–30
234	1¾ miles southeast of	E. H. Shearrer			1,001	4	do	0	+50	1929–30
									+32.5	May 12, 1944
235	2 miles southeast of	Joe Granado			990	6	do	0	+35	1929–30
										May 12, 1944
236	3 miles southeast of	I. R. Adams			1,000	6	do	0	+5	1929–30
										May 12, 1944
237	1 mile north of	— Kinchen		1926			do			
238	½ mile southeast of	W. B. Etheridge			1,080	8	do	0		1929–30
										May 24, 1944
239	Leming, 1¾ miles southeast of.	Oscar Persyn	Leming Oil & Refining Co.		2,600?	8	do	0	+5	1929–30
									+3	June 5, 1944
240	do	do			300	5	Carrizo (?) sand	0	−20	1929–30
241	Pleasanton, 1½ miles north of.	E. R. Breaker	Evans et al	1911	1,925	8,4	Carrizo sand	0	+80	1929–30
										May 8, 1944
243	1 mile north of	Mrs. W. Campbell		1906	208	4	Mount Selman formation.	0	+10	1929–30
									+10.5	June 5, 1944

No.	Method of lift [2]	Use of water [3]	Rate of flow		Remarks
			1929-30 (gallons per minute)	April–June 1944 (gallons per minute)	
224	C, E	D, S	45	None	Flowed in 1930.
225	Flows	Irr		111	Temperature, 82° F.
226	Flows, Cf, G	D, S, Irr	75	2	
227	Flows	D, S		202	Temperature, 82½° F.
228	do	D, S		390	Temperature, 82° F.
229	A, G	D, S, Irr			
230	Cf, G	D, S, Irr	60	None	
231	Flows	Irr	250	[5] 150	Temperature, 83½° F.
232	do	Irr		97½	Temperature, 86° F.
233			400		
234	Flows	D, S, Irr	250	180	
235	do	D, S, Irr	300	175	Temperature, 85° F.
236	Flows, Cf, G	Irr	35	35	
237	Cf	Irr			
238	Flows	D, S, Irr	100	260	Temperature, 84° F.
239	do	S	5	1	Originally drilled for oil test.
240	None	N			Abandoned.
241	Flows	D, S, Irr	250?	150?	See log.
243	do	N	40	5	Temperature, 81° F.

See footnotes at end of table.

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level	
									Above (+) or below (−) measuring point (feet)	Date of measurement
244	North Pleasanton, at railroad shop.	Missouri Pacific R. R. Co.			1,552	6	Carrizo sand	1.0	+95	1929–30
									+23.5	May 9, 1944
245	Charlotte, 4¾ miles north of.			1927	160	4	Mount Selman formation.	0	−130	1929–30
246	1½ miles east of	A. E. Beckman		1928	1,692	7,4	Carrizo sand	1.0	−13	1929–30
									−23.8	May 11, 1944
247	Jourdanton, 7 miles southwest of.	J. W. Madden			1,465	6	Mount Selman formation.	0	−34.5	1929–30
248	½ miles west of	C. A. Robertson	I. U. Bettison		1,040	8,6	do	0	−80	1929–30
249	1 mile north-east of	Paul Anderson		1925	1,505	6	Carrizo sand	0	+55	1929–30
									+29.5	May 11, 1944
250	In Jourdanton	Central Power & Light Co.	Layne-Texas Co.	1930	1,635	10, 8, 6	do	0	−6.5	1930
									−20	1943
251	Jourdanton, 1½ miles northeast of.	C. S. Young	C. S. Young	1919	1,428	6	Mount Selman formation.	0	−10	1929–30
									−49.1	June 6, 1944
252	North Pleasanton, ¾ mile east of.	J. W. Siefried	W. Brown	1924	499	5,6	do	0	+4	1929–30
253	3 miles east of	W. A. Rickter			1,429	10	Carrizo sand	0	+2	1929–30
									−6.0	Apr. 25, 1944
254	do	F. DeBarros	B. T. Spradley	1909	482	5,4	Mount Selman formation.	0	+8	1929–30
									+0.4	May 10, 1944
255	Coughran, 1½ miles north of.	W. J. Allerkamp	W. Brown		1,050	6,4	do	0	+12	1929–30
									+2.5	May 10, 1944
256	1 mile northeast of	L. D. Hagg	do		927	4	do	2.0	+33	1929–30
									+26	May 10, 1944
257	½ mile north of	do	do		903	6	do	3.0	+50	1929–30
									+24.3	May 10, 1944
258	At Coughran	W. H. Gibson			885	6	do	0	+75	1929–30
								3.0	+20.5	May 9, 1944
259	Coughran, 5 miles northeast of.	Otto Grasso	W. Brown		1,157	6	do	1.0	+39	1929–30
									+6.1	May 10, 1944

No.	Method of lift [2]	Use of water [3]	Rate of flow		Remarks
			1929–30 (gallons per minute)	April–June 1944 (gallons per minute)	
244	Flows	N	500	10	Casing failed and new well (No. 77) was drilled. Temperature, 92½° F.
245	C, W	S			
246	C, W	D, S			
247	C, H	D, S			
248	C, W	S			
249	Flows	D, S, Irr		500	Temperature, 92° F.
250	T, E	P, Ind			Jourdanton city supply. Reported draw-down 57.5 feet while pumping 161 gallons a minute in 1930. See log.
251	C, W	S			See log.
252	Flows	D, Irr	25		
253	Cf, G	Irr	10	None	
254	A, G	S, Irr	35	None	Originally flowed 125 gallons a minute.
255	Flows	D, S	100		
256	do	D, S, Irr	350	81	Temperature, 84° F.
257	do	S, Irr	350	96	Temperature, 85° F.
258	do	P	200	40	Coughran town supply. Temperature, 84° F.
259	do	D, S, Irr	200		

See footnotes at end of table.

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level	
									Above (+) or below (−) measuring point (feet)	Date of measurement
260	Pleasanton, in old courthouse yard.	Atascosa County	A. J. Parchman	1900	666	3	Mount Selman formation.	2.0	+23 +8	1929–30 June 6, 1944
261	In Pleasanton	Mrs. J. F. Spence	A. Fuente	1909	470	3, 2	do	0	+23	1929–30
262	do	J. R. Daughtry	W. Cook	1913	505	4, 3	do	0	+9	1929–30
262a	do	City of Pleasanton			815	8, 4	do	0	+25	1929–30
263	do	T. Bright	W. Cook	1904	380	4, 3	do	0	+16	1929–30
264	do	E. S. Ferris	B. T. Spradley	1910	563	3	do	0	+25	1929–30
265	do	E. H. Burmeister, Sr.	A. Fuente	1909	676	3	do	0	+25	1929–30
266	do	M. M. Mansfield	B. T. Spradley	1910	639	3	do	0	+22	1929–30
267	do	P. A. Vance estate	do	1912	686	5⅜, 0	do	0	+18	1929–30
268	do	R. L. Gross estate	J. Mills	1912	708	3¾, 2	do	0	+30	1929–30
269	do	W. A. McCoy estate		1913	280	5, 2	do	0	+20	1929–30
270	do	M. Royal	Allen and Wilson	1908	406	2, 1¼	do	0	+5	1929–30
271	do	G. Long	A. Fuente	1909	720	4, 3, 2	do	0	+10	1929–30
272	do	J. L. Akeridge and W. N. Meeks.	W. Cook	1902	610	3, 2	do	0	+30	1929–30
273	do	C. W. Herzel	B. T. Spradley	1910	560	5	do	0	+11	1929–30
274	do	A. B. Gillete	J. T. Mills	1897	340	4	do	0	+5	1929–30
275	do	L. Thomason	W. Cook	1912	600	2	do	0	+18	1929–30
276	do	Mrs. K. C. Ormand	do	1902	640	2	do	0	+12	1929–30
277	do	J. R. Cook		1902	640	2	do	0	+20	1929–30
278	Pleasanton, north edge of	R. H. Blanch		1920	372	3	do	0	+13	1929–30
279	In Pleasanton	C. W. Kenley			630	3	do	0	+23	1929–30
280	Pleasanton, south edge of	N. A. McCoy	L. Devilbiss	1912	708	3¾	do	0	+5	1929–30
281	Jourdanton, 5¼ miles southwest of, at LaParita store.	R. C. Thurmond		1909	707	5 3/16	Cook Mountain (?) formation.	0	+2 −4.0	1929–30 1943
282	do	John Matocha	Jourdanton	1913	1,340	6	Mount Selman formation.	0	+2	May 25, 1944
283	5 miles southwest of	H. McCollum	W. Cook	1929	1,110	6	do	0	−10	1929–30
284	Charlotte, 5½ miles southwest of, Davistown gin.	M. M. Davis			132	4	Cook Mountain formation.	0	−30	1929–30
285	Hindes, 2½ miles north of	W. M. Hindes		1909	440	4	Cook Mountain (?) formation.	0	−5	1929–30

No.	Method of lift [2]	Use of water [3]	Rate of flow		Remarks
			1929–30 (gallons per minute)	April–June 1944 (gallons per minute)	
260	Flows	N	65	13	Temperature, 81° F.
261	do	D	18		Temperature, 77° F.
262	do	D	20		Coal at bottom. Water also reported at 340 feet.
262a	do	P			
263	do	D	4		Temperature, 72° F.
264	do	D	25		
265	do	S	118	10	Temperature, 80½° F.
266	do	D	150		Temperature, 80° F.
267	do	D	300		Temperature, 81° F.
268	do	D, Irr	70		Temperature, 80° F.
269	do	D	5		Temperature, 76° F.
270	do	D	15		Temperature, 77° F.
271	do	D	3		Temperature, 77½° F.
272	do	D	75		
273	do	D	70		
274	do	D	12		
275	do	D	50		Temperature, 80½° F.
276	do	D	30		Temperature, 74° F.
277	do	D	30		
278	do	D, Irr	60		
279	do	D	200		
280	do	D	5		
281	Flows, C, W	D, S	3		
282	Flows	D, S	175	9	
283		D			
284	C, G	Ind, D			
285	C. W	S			

See footnotes at end of table.

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level	
									Above (+) or below (−) measuring point (feet)	Date of measurement
286	Hindes, ¼ mile north of	Atascosa State Bank		1915	350	4¼	Cook Mountain (?) formation	0.4	+20 −4.10	1929–30 May 11, 1944
287	Opposite railroad station	Hindes, Inc	W. Cook		450	4¼	do	3.2	+32 −3.58	1929–30 May 11, 1944
288	½ mile east of	J. D. Romberg	C. Edwards		400	4¼	do	0	+20	1929–30
289	¼ mile southeast of	S. Williams	do	1895	445	4¼	do	0	+15	1929–30
290	½ mile southeast of	do	do	1918	450	4¼	do	0	+20	1929–30
291	Charlotte, 6 miles south of	M. N. Davis		1900	304	5⅝	do. (?)	0	+15 0	1929–30 May 1944
292	7 miles south of	Y. D. Coleman			180		do	0	−30	1929–30
293	2½ miles southwest of	J. W. Chamberlain		1929	105	4	do. (?)	0	−70	1929–30
294	½ mile southeast of	J. M. Couser	W. Favor	1912	200	4	do. (?)	0	−15	1929–30
295	Christine, north edge of	Town of Christine		1917	1,314	6,4	Mount Selman formation.	0	+25	1929–30
296	In Christine	do		1911	956	8	do	2.5	+17	May 25, 1944
297	Christine, 4½ miles east of	J. Campbell		1906	2,000	8	do	0		1929–30
298	Campbellton, 4½ miles northwest of.	J. Dupuy			2,938	10	do. (?)	0		May 17, 1944
299	Poteet, 1¾ miles northwest of.	H. C. McCaughn		1911	1,000	6	Carrizo sand	.5	−27.5 −36.87	1929–30 June 1, 1944
300	Pleasanton, 2 miles southeast of.	Rupp Pipe Co		1927	1,722	6, 5⅞	do	0	+98	1929–30
301	Christine, 5½ miles west of	R. Lauderdale			1,500	4	Mount Selman formation.	0	+60	1929–30
302	Pleasanton, 11 miles southeast of.	J. D. Harrison			1,200	6	do	0		May 16, 1944
303	In McCoy	W. H. Thane			900		do	0		do
304	McCoy, 5 miles east of	E. Albert	W. Stempel	1927	100	4	Yegua (?) formation	0	−55	1929–30
305	5½ miles east of	W. Taush	do	1927	109	4	do	0	−45	1929–30
306	5 miles east of	R. Smith	do	1929	148	4	do	0	−65	1929–30
307	4½ miles east of	do	do	1929	138	4	do	0	−60	1929–30
308	3 miles east of	— Parkhill	do	1929	99	4	do	0	−50	1929–30
309	3 miles southeast of	T. W. Smith	do	1929	147	4	do	3.2	−42.25	May 16, 1944
310	5 miles east of	W. Taush	do		57	4	do	0	−50	1929–30

No.	Method of lift [2]	Use of water [3]	Rate of flow		Remarks
			1929–30 (gallons per minute)	April–June 1944 (gallons per minute)	
286	Flows, C, W	S	10		
287	None	N	42		
288	Flows	D	80		
289	do		10		
290	do	D	80		
291	Flows, C, W	D, S	25		
292	None	N			Plugged and abandoned.
293	C, W	D			
294	C, W	D			
295	Flows	P	300		Principal water-bearing bed from 1,280 to 1,314 feet. Town supply.
296	do	S	250	32.5	Principal water-bearing bed from 951 to 956 feet.
297	do	S	75		Principal water-bearing bed from 1,422 to 1,563 feet.
298	do	S	300	100	Principal water-bearing bed from 1,640 to 1,698 feet. Formerly used for irrigation.
299	C, W	D, S			
300	Flows	D, S, Irr	650	217	Principal water-bearing bed from 1,435 to 1,722 feet. Temperature, 96° F.
301	do	S	60	10	Drilled for oil test.
302	do	D, S		10	Formerly used for irrigation. Temperature, 92° F.
303	do	D, S	50	10	Temperature, 91° F.
304	None	N			Filled and abandoned.
305	C, W	S			Salty.
306	C, W	S			Do.
307	C, W	S			Do.
308	C, W	S			Do.
309	C, W	S			Do.
310	C, W	D			

See footnotes at end of table.

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level	
									Above (+) or below (−) measuring point (feet)	Date of measurement
311	Campbellton, 8 miles northeast of.	J. W. Smith	W. Stempel	1927	187	4	Yegua (?) formation	0	−70	1929-30
312	7½ miles northeast of	L. Mayer	do	1926	187	4	do	0	−98	1929-30
313	8 miles northeast of	L. Brister	do	1928	323	4	do	0	−80	1929-30
314	Fashing, 4 miles northwest of.	F. Ruckman	do	1929	383	4	do. (?)	0	−85	1929-30
315	3½ miles northwest of	B. Hearhausler	do	1928	168	4		0	−68	1929-30
316	2½ miles northwest of	W. Hearhausler	do	1928	268	4		0	−68	1929-30
317	1¼ miles north of	H. Kelner	D. P. Paschal	1923	110	4¼		0	−70	1929-30
318	½ mile north of	F. Frenzil	do	1923	110	4¼		0	−40	1929-30
319	1 mile northeast of	J. Seiler	do	1923	91½	4¼		0	−30	1929-30
320	In Fashing	J. Weiganz	— Schaffer	1929	198	4¼		0	−60	1929-30
321	Fashing, 1 mile southwest of.	K. Kelner	D. P. Paschal	1924	160	4¼				1929-30
322	In Fashing	Fashing Mercantile Co		1927	150	4		0	−50	1929-30
323	Fashing, 2½ miles south of	Essy Bros	D. P. Paschal	1923	160	4¼		0	−48	1929-30
324	4 miles southwest of	do	do	1923	155	4¼		0	−50	1929-30
325	Campbellton, 3 miles northwest of.	A. N. Peller		1925	300	4	Yegua formation	0	−100	1929-30
326	2¾ miles northwest of	do		1928	1,600	4	Mount Selman formation.			1929-30
327	In Campbellton	C. A. Struve		1928	2,000	8	do	0	+40 May 17, 1944	1929-30
328	Campbellton, 4¼ miles southeast of.	— Douglas	W. Stempel	1927	249	4		0	−135	1929-30
329	5½ miles southeast of	— Oldenoff	do	1927	247	4		0	−140	1929-30
330	4 miles northeast of	R. T. Eshenberg	do	1930	387	4	Yegua (?) formation	0	−80	1929-30
331	McCoy, 5 miles west of	A. Smith	do	1930	138	4	Yegua or Cook Mountain formation.	0	−70	1929-30
332	4¼ miles west of	do	do	1930	148	4	do	0	−70	1929-30
333	5 miles west of	do	do	1929	144	4	do	0 1.3	−70 −77.92	1929-30 May 17, 1944
334	Campbellton, 1½ miles northeast of.	F. Allen	do	1926	248	4	Yegua formation	0	−10	1929-30
335	Fashing, 1¾ miles northwest of.	J. Weigang	— Schaffer	1930	285	4				

No.	Method of lift [2]	Use of water [3]	Rate of flow		Remarks
			1929–30 (gallons per minute)	April–June 1944 (gallons per minute)	
311	C, W	S			Sulfur taste.
312	C, W	S			Salty.
313	C, W	D			Slightly salty.
314	C, W	S			Do.
315	C, W	S			Salty.
316	C, W	S			Do.
317	C, W	D			
318	C, W	S			Bitter taste.
319	C, W	S			
320	C, W	S			Salty.
321	C, W	S			Sulfur.
322	C, W	S			Do.
323	C, W	S			
324	C, W	S			
325	C, W	S			Salty.
326	Flows	S	50		Do.
327	do		200	½	Do.
328	C, W	S			Do.
329	C, W	S			Do.
330	C, W	D			Slightly salty.
331	C, W	S			Salty.
332	C, W	S			Do.
333	C, W	S			Do.
334	C, W	S			Do.
335					Gas only.

See footnotes at end of table.

Well No.	Location	Owner	Driller	Year completed	Depth of well (feet)	Diameter of well (inches)	Geologic horizon (formation or groups of formations)	Height of measuring point above ground (feet) [1]	Water level	
									Above (+) or below (−) measuring point (feet)	Date of measurement
336	Coughran, 8 miles northeast of.	S. Houston	W. Stempel	1928	247	4	Cook Mountain (?) formation.	0	−60	1929-30
337	Charlotte, 5 miles north of	L. B. Wier		1908	1,207	5, 3½	Carrizo sand	0	−60	1929-30
								1.1	−69.07	June 2, 1944
338	4½ miles northwest of	E. J. Pruitt			376	4	Mount Selman formation.	0	−8	1929-30
339	Campbellton, 4 miles southeast of.	Mrs. C. T. Tom	DeLange Eiser & Co.		4,644					
340	do	do	Pantex Oil Co	1915	2,440		Cook Mountain (?) formation.			
341	Pleasanton, 2½ miles southeast of.	T. H. Harrison	Geo. Boone		244	4	do	0	−54	1929-30
342	Poteet, 4 miles east of	Henry Shearer		1930	909	4½	Carrizo sand	0	+15	1929-30
								1.0	+0.50	Apr. 25, 1944
343	Charlotte, west edge of	— Chamberlain					Mount Selman formation.			

No.	Method of lift [2]	Use of water [3]	Rate of flow		Remarks
			1929–30 (gallons per minute)	April–June 1944 (gallons per minute)	
336	C, W	S			Salty.
337	C, W	D, S			Water also from 360 to 375 feet.
338	C, W				Slight taste.
339					Abandoned oil test.
340					Abandoned oil test. Water reported at 1,200 feet.
341	C, W	S			Salty.
342	Flows, Cf, G	D, S, Irr	150	9	
343		D			

[1] Minus sign (—) indicates measuring point was below ground.
[2] Pump or lift: T, turbine; Cf, centrifugal; C, cylinder; A, air lift. Power: E, electric; G, gasoline, oil, or Diesel engine; H, hand; W, windmill. Number indicates horsepower.
[3] Ind, industrial; D, domestic; S, stock; Irr, irrigation; P, public supply; N, not used.
[4] Water level reported by driller or owner.
[5] Yield estimated.
[6] Records for wells 160–343 are from U. S. Geol. Survey Water-Supply Paper 676 and are supplemented in many places with data obtained in 1944.

DRILLERS' LOGS

Drillers' logs, Atascosa County, Tex.

Well 1

[West Land Security Co., 9¼ miles north of Poteet]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Sand and clay	3	3	Yellow sand	10	105
Clay	30	33	Sand and clay, mixed	18	123
White and red sand	47	80	Water sand	36	159
Sand and clay	10	90	Sandy shale	44	203
Red sand	5	95			

Well 54

[C. P. Carter, 5¼ miles south of Poteet]

Surface material	55	55	Sticky shale	11	867
Rock	7	62	Sand and shale	39	908
Sand	24	86	Rock	3	911
Shale	28	114	Sticky shale	57	968
Rock	2	116	Rock	2	970
Sand	12	128	Sandy shale	34	1,004
Shale and sand	28	156	Brown shale	41	1,045
Rock	2	158	Sand	26	1,071
Shale	23	181	Rock	9	1,080
Sand	17	198	Shale with streaks of sand	51	1,131
Shale	38	236	Sand with streaks of shale	69	1,200
Sandy shale	22	258	Hard rock	8	1,208
Sticky brown shale	52	310	Sand	10	1,218
Shale with streaks of coal	26	336	Rock	2	1,220
Shale	26	362	Sand	6	1,226
Sand and shale	24	386	Rock	2	1,228
Shale and lime	70	456	Sand	4	1,232
Shale and sand	38	494	Rock	2	1,234
Sand	44	538	Sand	12	1,246
Shale	18	556	Shale	10	1,256
Rock	2	558	Sand	24	1,280
Sand	23	581	Shale	14	1,294
Shale	31	612	Sand	8	1,302
Rock	3	615	Shale	10	1,312
Sand and shale	71	686	Sand	8	1,320
Sand with streaks of shale	95	781	Shale	20	1,340
Hard shale	9	790	Sand	10	1,350
Rock	2	792	Shale	19	1,369
Sand	56	848	Sand	89	1,458
Shale and sand	8	856			

Well 55

[Simon Rodriguez, 5 miles southeast of Poteet]

Soil	3	3	Hard sand	19	638
Sandy clay	7	10	Fine-grained white sand	45	683
Yellow sand	20	30	Rock	1	684
Gray shale	26	56	Hard sand	95	779
Sand	7	63	Rock	2	781
Shale	67	130	Hard sand	14	795
Sand	18	148	Rock	1	796
Not given	12	160	Hard sand	42	838
Sandy shale	122	282	Rock	1	839
Rock	1	283	Sand	36	875
Sand	10	293	Sandy shale	40	915
Sand and limey shale	59	352	Rock	1	916
Rock	1	353	Hard sand	7	923
Sand	10	363	Rock	1	924
Shale	11	374	Sand and rock	26	950
Sand	10	384	Rock	1	951
Sandy shale	80	427	Shale	22	973
Hard sand	10	437	Hard sand and iron pyrites	22	995
Rock	1	438	Sand and shale	20	1,015
Sand	19	457	Fine-grained white sand	85	1,100
Rock	2	459	Sand and shale	100	1,200
Sand	31	490	Brown sand	60	1,260
Rock	1	491	Fine-grained white sand	40	1,300
Sand	71	562	Sand	85	1,385
Rock	2	564	Brown shale	5	1,390
Hard sand and rock	43	607	Sand	15	1,405
Sand	11	618			
Rock	1	619			

Drillers' logs, Atascosa County, Tex.—Continued

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Well 82					
[Humble Oil and Refining Co. Well 1, 4½ miles south of Pleasanton]					
Soil	4	4	Hard shale and lime	150	354
Sand	8	12	Shale and sand streaks	16	370
Clay	19	31	Hard shale	121	491
Sandy shale	9	40	Sand	62	553
Sand	19	59	Sandy shale with sand streaks	19	572
Shale	69	128	Shale	24	596
Sand	9	137	Hard sand with shale streaks	18	461
Sticky shale	4	141	Sticky shale	6	620
Shale with sand streaks	39	189	Hard sand	20	640
Hard sand	13	202			
Hard rock	2	204			
Well 85					
[S. L. Batchelor, 2¾ miles southeast of Pleasanton]					
Soil	2	2	Rock	1	881
Sandy yellow clay	58	60	Sand	9	890
Rock	1	61	Sand and shale	10	900
Boulders and clay	9	70	Sand	40	940
Blue shale and shells	83	153	Boulders and sand	10	950
Shale and boulders	16	169	Sandy shale	15	965
Rock	1	170	Shell rock	7	972
Boulders	4	174	Soft sand	48	1,020
Sand and shale	16	290	Hard sand	5	1,025
Rock	1	291	Rock	1	1,026
Sand and shale with shells	24	315	Sand	1	1,027
Shale	78	393	Sand and shale	16	1,143
Rock	2	395	Hard rock	2	1,145
Sand (water)	52	447	Water sand	13	1,258
Boulders and sand	8	455	Shale and sand	70	1,328
Brown shale and sand	9	464	Lime, shale, and sand	53	1,381
Rock—very rough	1	465	Black shale	100	1,481
Blue shale	75	540	Hard shale	59	1,540
Sticky shale	3	543	Shale	19	1,559
Lime rock	1	544	Rock	1	1,560
Sand	41	585	Black shale	30	1,590
Rock	2	587	Sand rock	4	1,594
Sand	43	630	Shale	9	1,603
Blue shale	48	678	Hard sand (water)	47	1,650
Sand	38	716	Hard rock	1	1,651
Rock	1	717	Shale	4	1,655
Shale	8	725	Coarse-grained sand	5	1,660
Sand and shale	35	760	Shale and shells	20	1,680
Sand and boulders	25	785	Fine-grained sand	34	1,714
Black sand (water)	55	840	Hard rock	2	1,716
Boulders and sand	5	845	Sand and shale	77	1,793
Hard sand	17	862	Sand and hard shale	58	1,851
Hard shale and lime	18	880	Sand-water	92	1,943
Well 110					
[Felix Henke, 8¾ miles east of Campbellton]					
Surface material	21	21	Hard rock	8	573
Rock	25	46	Hard broken shale	22	595
Gray sandstone	22	68	Sticky shale	22	617
Green shale	22	90	Shale	28	645
Brown shale	22	112	Sand	5	650
Hard gray sandstone	21	133	Sticky shale	14	664
Hard sandstone	22	156	Green shale and lignite	40	704
Black flint	4	160	Shale and lignite	38	742
Sandy shale	20	180	Sand	8	750
Do	42	222	Sandy shale	15	765
Sticky blue shale	18	240	Shale	20	785
Sandstone	6	246	Brown shale	40	825
Brown shale	30	276	Hard sandstone	30	855
Sandy shale	39	315	Broken sandstone	40	895
Do	19	334	Shale	12	907
Blue shale	21	355	Green sand	18	925
Brown sandy shale	22	377	Sticky shale	45	970
Sticky shale	66	443	Sandy shale	20	990
Hard sticky shale	21	464	Gray sand	20	1,010
Hard fossils	21	485	Sticky shale	20	1,030
Sticky shale	22	507	Hard broken sandstone	20	1,050
Sandy shale	22	529	Green sand	20	1,070
Brown sticky shale	36	565	Sandy shale	32	1,202

Drillers' logs, Atascosa County, Tex.—Continued

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Well 112					
[H. R. Smith and J. E. Mowinckle, 3¾ miles east of Campbellton]					
Surface material	15	15	Hard shale	113	2,093
Sand	6	21	Rock	1	2,094
Shale	29	50	Streaks of sand and shale	3	2,097
Rock	2	52	Rock	5	2,102
Shale	28	80	Shale	14	2,116
Shale and lignite	70	150	Hard shale	157	2,273
Rock	2	152	Sand	5	2,278
Sandy shale	6	158	Sandy shale and shells	54	2,332
Rock	1	159	Sandy shale	35	2,367
Soft sand	2	161	Sand (hot salty water rose to surface)	64	2,431
Rock	1	162	Shale and shells	166	2,597
Shale	15	177	Lime	3	2,600
Hard sandy shale	9	186	Rock	3	2,603
Rock	4	190	Sand (hot salty water)	45	2,648
Hard shale and soft streaks	70	260	Shale	5	2,653
Lignite	1	261	Rock	2	2,655
Hard shale and lignite streaks	44	305	Sand	2	2,657
Rock	1	306	Sand and shells	205	2,862
Shale	15	321	Hard sand	8	2,870
Shale and sand streaks	144	465	Hard sand and soft streaks	26	2,896
Sand	5	470	Shale and shells	91	2,987
Shale	30	500	Sandy shale and shells	98	3,085
Rock	1	501	Sand	37	3,122
Shale	119	620	Hard sand	22	3,144
Shale and lignite	12	632	Hard rock	5	3,149
Shale	66	698	Sand	11	3,160
Rock	3	701	Lime and sand	12	3,172
Water sand (water rising within 100 feet of surface)	94	795	Sandy shale	40	3,212
Shale	185	980	Sand	58	3,270
Rock	1	981	Shale and boulders	45	3,315
Sand	22	1,003	Shale and lime streaks	57	3,372
Shale	112	1,115	Sandy shale	124	3,496
Sand	46	1,161	Shale	4	3,500
Shale	59	1,220	Hard shale and lime	26	3,526
Sandy shale	65	1,285	Sandy shale and lime	84	3,610
Rock	1	1,286	Hard shale and lime	30	3,640
Sandy shale	4	1,290	Sticky shale	20	3,660
Rock	1	1,291	Lime	6	3,666
Sandy shale	44	1,335	Sandy shale	5	3,671
Sticky shale	57	1,392	Shale and lime	79	3,750
Rock	4	1,396	Sticky shale	23	3,773
Water sand	16	1,412	Hard lime	4	3,777
Shale and boulders	178	1,590	Shale	2	3,779
Shale and sand streaks	75	1,675	Sandy shale and lime	37	3,816
Sticky shale	20	1,695	Sandy shale	49	3,865
Rock	1	1,696	Brown shale	10	3,875
Sandy shale	4	1,700	Hard sandy shale	58	3,933
Shale and lime streaks	280	1,980	Sand	227	4,200
Well 114, partial log					
[Harrison and Abercrombie, 3 miles northwest of Campbellton]					
Water sand	38	1,038	Shale	16	2,410
Shale and sandy shale	147	1,119	Broken sands	215	2,625
Sand	25	1,218	Water sand	117	2,742
Shale	106	1,324	Streaks of sand and shale	76	2,828
Sand	12	1,336	Shale	37	2,865
Shale	179	1,515	Shale and streaks of sand	185	3,050
Sandy shale	29	1,546	Broken water sands	122	3,172
Water sand	79	1,625	Water sand	271	3,443
Sandy shale	45	1,670	Hard shale	27	3,470
Shale with hard streaks	105	1,775	Water sand and some shale breaks	333	3,803
Water sand with shale breaks	570	2,355	Water sand with hard streaks and shale breaks	202	4,005
Shale	11	2,366			
Water sand	28	2,394			

Drillers' logs, Atascosa County, Tex.—Continued

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Well 118					
[E. J. Pruitt, 2 miles west of Charlotte]					
Surface soil	3	3	Shale and boulders	98	327
Clay	9	12	Sand	33	360
Yellow sand	28	40	Rock	1	361
Shale	20	60	Sand and shale	69	430
Sand	6	66	Rock	2	432
Shale	49	115	Sand and shale	20	452
Rock	1	116	Sand	8	460
Sand and shale	18	134	Lime rock	4	464
Rock	2	136	Lime, shale	8	472
Sand	9	145	Shale	26	498
Shale and boulders	75	220	Water sand	50	548
Sand	9	229			
Well 119					
[E. J. Prnitt, 2 miles west of Charlotte]					
Surface sand	20	20	Shale and boulders	160	500
Yellow sand	20	40	Sand	60	560
Shale	12	52	Shale	36	596
Rock	1	53	Rock	1	597
Sand	18	71	Sand	27	624
Sand, shale	59	130	Shale	110	734
Hard rock	2	132	Sand	22	756
Sand	8	140	Hard shale	76	832
Rock	1	141	Soft shale	38	870
Sand and shale	16	157	Sand	50	920
Shale	20	177	Hard shale	8	928
Rock	1	178	Good sand	126	1,054
Sand and boulders	162	340			
Well 162, partial log [1]					
[A. Cortinas, 4 miles west of Rossville]					
Mount Selman formation:			Indio formation:		
Hard sand	25	25	Black gumbo	15	500
Yellow clay	57	82	Rock	5	505
Rock	1	83	Gumbo and shale	27	532
Carrizo sand:			Pyrite	11	543
Hard sand	131	214	Sand and boulders	44	587
Sand rock	12	226	Rock	3	590
Hard rock	134	360	Gumbo	37	627
Sand rock	4	364	Hard rock	3	630
Hard sand	121	485			

[1] Lonsdale, John T., Geology and ground-water resources of Atascosa and Frio Counties, Tex.: U. S. Geol. Survey Water-Supply Paper 676, p. 85, 1935.

Drillers' logs, Atascosa County, Tex.—Continued

Well 241 [2]

[E. R. Breaker farm, 1½ miles north of Pleasanton]

	Thickness (feet)	Depth (feet)
Mount Selman formation:		
Surface sand	2	2
Yellow clay	22	24
Gray clay	14	38
Blue clay	6	44
Water sand	64	108
Soft sandrock	92	200
Water sand	24	224
Rock sand	11	235
Shale	15	250
Soft asphalt rock and fine sand	14	264
Brown shale mixed with gumbo	22	286
Brown shale and sand	123	409
Sandrock	3	412
Brown shale	27	439
Rock	1	440
Brown shale and sand	44	484
Hard rock	1	485
Lignite	2	487
Shale and sand	7	494
Pyrite	1	495
Shale and sand	10	505
Hard rock	4	509
Shale and sand	14	523
Hard limerock	2	525
Shale and sand	8	533
Gumbo	23	556
Sand, shale, and slate	33	589
Brown rock	3	592
Hard sand	22	614
Rock	4	618
Shale	25	643
Hard sand; water show	16	659
Soft shale and gumbo	21	680
Blue and brown shale and sand	37	717
Mount Selman formation—Continued		
Rock	1	718
Shale and sand	38	756
Gumbo	14	770
Rock	1	771
Shale and sand	11	782
Brown rock	4	786
Soft shale and sand	4	790
Hard gumbo	14	804
Limerock	2	806
Sand; oil show	4	810
Porous rock; oil show	22	832
Shale and sand	24	856
Gumbo	12	868
Rock	1	869
Shale and sand	31	900
Gumbo	25	925
Rock	2	927
Water sand	273	1,200
Carrizo sand:		
Rock	6	1,206
Water sand	309	1,515
Indio formation:		
Pyrite	3	1,518
Lignite	4	1,522
Black gumbo	78	1,600
Packed sand	12	1,612
Black gumbo	88	1,700
Limestone	20	1,720
Shell and shale	20	1,740
Gray blue gumbo	25	1,765
Sand; water show	25	1,790
Shale	15	1,805
Rock	4	1,809
Hard shale	102	1,911
Soft shale; gas show	6	1,917
Rock (lime formation)	8	1,925

Well 250

[Central Power & Light Co., in Jourdanton]

	Thickness (feet)	Depth (feet)
Surface soil	4	4
Clay	50	54
Rock	1	55
Blue shale	14	69
Rock	2	71
Blue shale and boulders	115	186
Rock	1	187
Blue shale	13	200
Rock (pyrites)	2	202
Hard sand	22	224
Blue shale and boulders	20	244
Rock	2	246
Shale and sand	14	260
Rock	1	261
Shale	19	280
Rock	2	282
Sand	24	306
Shale and boulders	23	329
Rock (pyrites)	3	332
Shale	21	353
Rock	1	354
Shale	10	364
Rock	1	365
Shale and boulders	147	512
Hard sand	23	535
Shale and boulders	23	558
Sand	20	578
Shale and boulders	22	600
Sandy shale	80	680
Rock	1	681
Sandy shale	104	785
Rock	1	786
Shale and boulders	56	842
Rock	2	844
Shale	13	857
Sand	53	910
Sandy shale	65	975
Rock	2	977
Hard shale	20	997
Sand	46	1,043
Sandy shale	26	1,069
Rock	2	1,071
Shale	15	1,086
Sand	43	1,129
Rock	3	1,132
Shale	16	1,148
Rock	2	1,150
Sand	24	1,174
Rock	1	1,175
Shale	17	1,192
Sand (good)	51	1,243
Rock	4	1,247
Shale	46	1,293
Rock	3	1,296
Shale and boulders	85	1,381
Rock	2	1,383
Shale	8	1,391
Rock	6	1,397
Shale and boulders	47	1,444
Rock	3	1,447
Sand (dry)	45	1,492
Shale	16	1,508
Sand (hard streaks)	96	1,604
Coarse-grained white sand	31	1,635

[2] Lonsdale, John T., op. cit., pp. 85–86.

Drillers' logs, Atascosa County, Tex.—Continued

Well 251 [3]

[C. S. Young ranch, 1½ miles northeast of Jourdanton]

	Thickness (feet)	Depth (feet)
Cook Mountain formation:		
Yellow sand	2	2
Red clay	3	5
Gravel, pyrite, and gypsum	5	10
Black sand	10	20
Gravel and pyrite	30	50
Yellow rock	20	70
Black sand	5	75
Black shale	7	82
Gray sand	38	120
Oil showing	20	140
Water sand	22	162
Rock sand	140	300
Water sand	3	303
Sandstone and shell	32	335
Pack sand	3	338
Mount Selman formation:		
Hard, rough sandstone	202	540
Sand; oil showing	3	543
Red gumbo	7	550
Hard sandstone	12	562
Sandstone	6	568
Hard sandstone	3	571
Black sand	14	585
Blue gumbo	20	605
Black shale	25	630
Blue gumbo	15	645
Black shale	35	680
Pack sand	25	705
Blue gumbo	10	715
Sand and shale; oil show	7	722
Sand; oil showing	8	730
Blue gumbo	15	745
Water sand	15	760
Blue sandstone	10	770
Hard blue shale	12	782
Gumbo and boulders	13	795
Hard blue gumbo	15	810
Water sand	10	820
Blue shale	50	870
Hard sand	12	882
Hard blue shale	18	900
Blue gumbo	10	910
Blue shale	21	931
Water sand	19	950
Hard sandstone	4	954
Gumbo and pyrites	16	970
Sandstone	4	974
Soft blue shale	8	982
Hard rough sandstone	3	985
Hard blue shale	5	990
Blue sandstone	3	993
Mount Selman formation—Continued		
Hard pack sand	7	1,000
Blue sandstone	3	1,003
Blue shale	4	1,007
Blue sandstone	3	1,010
Hard blue sand	10	1,020
Hard rough red rock	4	1,024
Hard sandstone	11	1,035
Blue sandstone	3	1,038
Hard blue shale	30	1,068
Blue sandstone	3	1,071
Shale and sand; oil and gas	1	1,072
Hard sandstone	8	1,080
Water sand	10	1,090
Blue sandstone	2	1,092
Blue gumbo	18	1,110
Blue sandstone	3	1,113
Water sand	42	1,155
Blue sandstone	5	1,160
Blue shale	25	1,185
Blue sandstone	3	1,188
Water sand	22	1,210
Hard blue shale; oil show	9	1,219
Blue sandstone	3	1,222
Hard blue shale	6	1,228
Hard blue sandstone	2	1,230
Blue shale	6	1,236
Hard blue sandstone	4	1,240
Blue shale	20	1,260
Blue sandstone; oil show	3	1,263
Hard blue shale	9	1,272
Blue sandstone	3	1,275
Soft blue shale	15	1,290
Blue sandstone	4	1,294
Blue gumbo	18	1,312
Blue shale	13	1,325
Blue sandstone	4	1,329
Blue shale	11	1,340
Blue sandstone	5	1,345
Blue shale	5	1,350
Blue sandstone	4	1,354
Blue shale	16	1,370
Blue sandstone	3	1,373
Blue shale	7	1,380
Blue sandstone	4	1,384
Blue shale	11	1,395
Blue sandstone	5	1,400
Hard blue shale	10	1,410
Brown shale	8	1,418
Hard blue sandstone	10	1,428

Well 300 [4]

	Thickness (feet)	Depth (feet)
Cook Mountain and Mount Selman formations:		
Yellow soil and clay	50	50
Dark-blue clay	25	75
Sandrock	2	77
Water sand	3	80
Blue clay	90	170
Blue water sand	8	178
Blue clay	127	305
Blue water sand	30	335
Blue clay	290	625
Blue water sand	90	715
Blue clay	89	804
Sandrock	106	910
Blue water sand	51	961
Sand and clay, hard	44	1,005
Cook Mountain and Mount Selman formations—Continued		
Gray water sand	40	1,045
Hard sand and shale	168	1,213
Gray water sand	29	1,242
Hard sandy shale	138	1,380
Shale and gumbo	39	1,419
Carrizo sand:		
White hard rock	16	1,435
White water sand	75	1,510
Blue hard rock	20	1,530
White water sand	60	1,590
Blue hard rock	30	1,620
White water sand and coal	102	1,722

[3] Lonsdale, John T., op. cit. p. 86.

[4] Lonsdale, John T., op. cit. p. 87.

CHEMICAL ANALYSES OF GROUND WATERS

Analyses in parts per million

[Analyzed at the University of Texas under the direction of W. W. Hastings, chemist, U. S. Geological Survey and Dr. E. P. Schoch, director, Bureau of Industrial Chemistry. Well numbers correspond to numbers in table of well records]

Well	Owner	Depth of well (feet)	Date of collection	Total dissolved solids	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Total hardness
						Water probably from Carrizo sand									
3	R. W. Hamilton	169	May 31, 1944			0.50				32	16	45			60
5	H. Koehler	450	Aug. 16, 1945			3.5				77	24	59			100
9	Rudolph Stumberg	265	do			6.8				54	46	63			86
23	T. J. Irvine	270	do			1.5				88	40	52			104
24	Glen Clymer	560	do			.10				70	26	52			94
34	A. E. Tutschke	521	do			1.6				43	42	59			86
36	W. F. Hess	630	May 30, 1944			.25				64	34	53			90
38	J. R. Shearer	540	Aug. 16, 1945			.10				52	24	46			72
54	C. P. Carter	1,458	May 12, 1944			.71				212	44	36			204
55	Simon Rodriquez	1,405	May 9, 1944			.81				192	42	34			174
56	C. P. Carter	1,900	do			.64				190	22	38			150
57	W. R. Targart	1,500	do			1.6				200	40	37			174
61	Cyril Hooge	1,010	May 8, 1944			.71				126	16	39			102
62	do	1,090	do			.87				176	42	45			159
73	Dan McKenzie	320	June 5, 1944			1.9				279	52	90			237
75	Oscar Persyn	1,100	do			7.0				77	32	52			102
76	Mrs. W. Campbell	1,200	do			.47				248	22	55			162
77	Missouri Pacific R. R. Co.	1,550	May 9, 1944			.50				230	36	38			204
81	M. L. Thompson	1,600	May 18, 1944							530	2	74			12
83	Roy Quillian	2,060	do							280	22	25			180
85	S. L. Batchelor	1,943	May 9, 1944			.20				278	24	30			216
86	Joe K. Williams	1,750	do			.14				284	36	35			207
98	M. F. Flores	2,010	May 10, 1944			2.0				302	44	46			204
101	F. M. McCarty		do			4.4				266	36	42			204
111	Smith and Mowinkle	4,169	May 25, 1944	817	32	.02	3.3	0.4	312	686	[1] 1.7	74	1.0	0	[2] 10
112	do	4,200	do	739	31	.02	3.8	.8	289	628	[1] 35	63	.6	0	[2] 13
114	Harrison and Abercrombie	3,600	do	2,010	14	.02	3.1	.8	820	1,450	[1] 129	322	3.4	1.8	[2] 11
117	Humble Oil & Refining Co	1,520	May 11, 1944			.08				48	130	387			252
161	G. W. Beachman	125	June 2, 1944			4.3				43	16	63			102
[3] 163	Mrs. Elsie Herberer	380	Feb. 22, 1928	227	18	1.1	31	6.2	33	52	[1] 50	51		.10	[2] 103
163	do	380	June 2, 1944			.60				57	24	60			114

[3] 166	R. W. Hamilton	175	June 18, 1932	107		.23	10		27	31	[1] 21	32		.42	[2] 34
166	do	175	May 31, 1944			.10				31	14	58			81
177	— Terrel	640	June 18, 1932	196		1.4	40	7.9	20	84	[1] 41	45		0	[2] 132
179	J. Cumpian	578	Aug. 16, 1945			3.0				103	55	32			124
190	Felix Mikolajczyk	380	do			7.6				60	26	52			87
195	do	715	do			.53				39	34	52			81
[3] 197	Walter Flocke	600	May 26, 1932	199	19	1.1	29	6.0	28	60	[1] 36	43			[2] 97
206	J. M. Chittim Estate	850	June 1, 1944			1.0				40	34	64			102
[3] 216	do	840	Feb. 22, 1928	180	18	.58	.23	4.8	27	43	[1] 33	46		.21	[2] 77
[3] 218	City of Poteet	835	May 26, 1932	193	16	11	28	6.1	28	55	[1] 32	47		0	[2] 95
[3] 220	J. M. Chittim Estate	840	do	253	15	6.7	50	9.3	30	166	[1] 32	32		0	[2] 163
239	Oscar Persyn	2,600	June 5, 1944			1.9				202	22	39			150
[3] 241	F. R. Breaker	1,925	Feb. 20, 1928	292	20	.52	59	8.5	32	189	[1] 39	34		0	[2] 182
[3] 249	Paul Anderson	1,505	Feb. 21, 1928	331	22	.96	77	12	32	264	[1] 37	34		0	[2] 242
[3] 250	Central Power Light Co	1,635	June 18, 1932	333		.90	68	15	39	278	[1] 41	33		0	[2] 232
[3] 300	Rupp Pipe Co	1,722	June 19, 1932	334		.69	82	12	28	268	47	33		0	[2] 254
300	do	1,722	May 9, 1944			.34				268	40	38			228
337	L. B. Wier	1,207	June 2, 1944			1.7				271	34	37			207

Water probably from Mount Selman formation

78	O. P. Leonard	701	June 3, 1944			0.25				385	3	111			78
79	E. G. Hendricks	1,325	May 17, 1944							971	240	1,120			
82	Humble Oil & Refining Co	640	May 18, 1944			.30				461	500	505			
84	C. L. Downey	1,000	do							724	140	1,320			
88	Dr. A. C. Hunter	600	do							560	15	134			30
89	F. De Barros	700	do							666	65	171			42
90	do	700	do							442	4	82			30
93	Mrs. Ola Richardson	1,100	May 10, 1944			.05				564	2	95			18
95	Oscar Kreitz	900	do			.08				494	2	93			24
97	M. S. Coughran	700	May 18, 1944							836	80	376			3
99	Ralph Coughran	550	do							422	550	280			42
100	Joe A. Coughran	600	do							602	80	107			6
103			May 16, 1944			.08				972	120	605			24
104			do							123	1,400	1,040			
105	E. A. Kinsel		do								2,000	1,560			
106	do	1,300	do							1,660	140	1,040			
113	J. D. Harrison	1,600	do							598	120	194			30
122	M. B. Hughey	1,012	June 3, 1944			.10				618	220	1,320			129
123	do	860	do			0				770	210	660			60
[3] 172	Dan McKenzie	66	June 19, 1932	767		1.1	130	31	110	286	[1] 120	235			[2] 452
243	Mrs. W. Campbell	208	June 5, 1944			.20				309	20	83			102
[3] 248	C. A. Robertson	1,040	June 18, 1932	442		1.7	48	23	88	272	[1] 73	75		0.50	[2] 214
[3] 255	W. J. Allerkamp	1,050	June 19, 1932	588			5		249	543	[1] 1	81		0	[2] 18
257	L. D. Hagg	903	May 10, 1944			.32				474	2	98			21
260	A. J. Parchman	666	June 6, 1944			0				375	2	98			66
[3] 262	City of Pleasanton	815	Feb. 20, 1928	484	20	.09	6.8	3.7	176	356	[1] 2.2	90		.10	[2] 32

See footnotes at end of table.

Analyses in parts per million—Continued

Well	Owner	Depth of well (feet)	Date of collection	Total dissolved solids	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Total hardness
Water probably from Mount Selman formation—Continued															
[3] 263	T. Bright	380	June 19, 1932	917		1.2	5		380	455	1	335		0	[2] 20
265	E. H. Burmeister, Sr.	676	June 6, 1944							421	38	76			58
[3] 274	A. B. Gillete	340	June 19, 1932	969			3		398	528	[1] 109	235		0	[2] 12
[3] 279	C. W. Kenley	630	do	458		.23	7		185	363	1	92		0	[2] 26
282	John Matocha	1,340	May 25, 1944							354	4	68			36
[3] 295	City of Christine	1,314	June 19, 1932	1,652			3		672	781	[1] 153	475		.68	[2] 9
295	do	1,314	May 25, 1944	1,710	14	.08	4.8	1.4	672	743	152	497	1.7	2.0	18
[3] 296	do	956	June 19, 1932	1,718	21	.10	4.8	2.3	657	769	[1] 152	460		2.5	[2] 21
296	do	956	May 25, 1944							867	440	1,580			
298	J. Dupuy	2,938	May 17, 1944							1,260	120	475			24
302	do	1,200	May 16, 1944							1,640	100	825			
[3] 303	— McCoy	900	June 19, 1932	2,980			3		1,255	1,671	[1] 163	850		0	[2] 10
303	do	900	May 16, 1944							1,680	130	845			
327	C. A. Struve	2,000	May 17, 1944							697	4	4,520			
Water from Cook Mountain or Yegua formation															
80	Clyant Smith	285	May 17, 1944							245	2,000	1,580			
109	Felix Henke	765	May 25, 1944							976	20	740			
121	Lee Minton		June 3, 1944			0.64				718	180	1,060			108
286	Atascosa State Bank	350	May 11, 1944			.25				225	550	472			
[3] 287	Hindes, Inc	450	June 19, 1932	1,699			9		639	324	[1] 547	412		2.7	[2] 28
332	A. Smith	148	May 17, 1944							322	2,000	720			

[1] Not by turbidity.
[2] As $CaCO_3$ (calculated).
[3] From Water-Supply Paper 676. Analyzed by Margaret D. Foster, Geological Survey, Washington, D. C.

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