JACKSON COUNTY, TEXAS

Records of wells, drillers' logs, water analyses,
and map showing locations of wells

TEXAS STATE BOARD OF WATER ENGINEERS
C. S. Clark, Chairman
A. H. Dunlap, Member
J. W. Pritchett, Member

PREPARED IN COOPERATION WITH THE UNITED STATES
DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY

February 1943

JACKSON COUNTY, TEXAS

Records of wells, drillers' logs, water analyses,
and map showing locations of wells

TEXAS STATE BOARD OF WATER ENGINEERS
C. S. Clark, Chairman
A. H. Dunlap, Member
J. W. Pritchett, Member

PREPARED IN COOPERATION WITH THE UNITED STATES
DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY

February 1943

JACKSON COUNTY, TEXAS

By

C. R. Follett and J. C. Cumley

This publication contains records of 210 wells, drillers' logs of 74 wells and results of chemical analyses or partial analyses of water from 136 wells in Jackson County, Texas. It also includes a map on which the wells listed are shown, each well being given a number on the map corresponding to the number assigned to it in the records. Records of wells 1 to 243 were obtained in the summer of 1934 by J. C. Cumley. The remainder were obtained in September 1942 by C. R. Follett. The work, both in 1934 and 1942, was carried out as part of a statewide program of ground-water investigations by the Texas State Board of Water Engineers in cooperation with the United States Department of the Interior, Geological Survey. Tables containing the data obtained in 1934 were relased in 1935 in the form of photostatic copies.

The water analyses were made by Margaret D. Foster, and W. W. Hastings, chemists of the Quality of Water Division of the Federal Geological Survey, and by chemists employed by the Work Projects Administration under the supervision of Mr. Hastings, and Dr. E. P. Schoch, Director of the Bureau of Industrial Chemistry of The University of Texas. The results of the analyses, which relate only to the mineral constituents in the water, and not to its sanitary character, are tabulated in parts per million on pages 45 to 48. For the convenience of those who prefer a different form of expression the analyses of 17 samples are given in milligram equivalents per liter on page 49.

The wells recorded in this release draw water from depths ranging from a few feet to 1,288 feet. Most of the farm and ranch wells that supply domestic and stock water are less than 100 feet in depth. The rice wells range from 175 to 506 feet in depth and yield by pumping from 600 to 2,700 gallons a minute.

Forty-two flowing wells were recorded, drawing from sands at depths ranging from 52 to 1,288 feet. The flow from these wells ranged from 2 to 210 gallons a minute. Many other flowing wells were reported, especially in the southeast corner of the county. As indicated on the map, the flowing wells are mostly along the Lavaca or Navidad Rivers or near the coast. The maximum-measured artesian pressure or height to which water would rise above the measuring point was 56 feet in No. 375. This well is about 22 feet above sea level.

The irrigation of rice both from wells and from streams has been carried on in Jackson County since about 1910. The total area devoted to the production of rice in the county which reached about 16,000 acres during the first World War about 1918, declined after the war and reached a low of 485 acres in 1933. From 1933 to 1940 there was a slow but gradual increase in the acreage and since 1939 and the advent of the second World War the rate of increase has been accelerated. The acreage in 1941 and 1942 was about 5,500 and 7,000 acres respectively. Of the rice lands cropped in 1942 about 2,700 acres was watered from streams and 4,300 acres from 23 wells. Of the 23 wells thus used one was drilled in 1938 and 8 since 1940. The other 14 were old wells, some of them being used for the first time since about 1918. The total number of wells drilled in the county for rice irrigation has been estimated as somewhere between 60 and 100. Some of those wells have been abandoned and filled up. Others have not been operated for years but are still usable. Many that were used in 1941 and 1942 had been idle for about 20 years.

Since 1934 many oil tests and oil wells have been drilled in the county in several oil fields. Most of the water used for drilling these wells has come from water wells put down in the immediate vicinity of the oil derricks. The casings of many such water wells have been pulled and the well abandoned after the oil well was completed but several of them are still cased and usable. It is reported that an average of 1,000,000 gallons of water is necessary to drill an oil wells.

Only two cities or towns have public water supplies. Edna, the county seat, has a well (no. 77) 416 feet in depth which yields about 530 gallons a minute. The average daily consumption by the city is 300,000 gallons in summer and 200,000 gallons in winter. Ganado has a well (no. 326) 280 feet in depth which yields 150 gallons a minute. The average daily consumption is about 35,000 gallons.

This publication should serve as a guide to land owners, officials of industrial plants, well drillers and others who need information regarding wells, the depth to ground water in different parts of Jackson County, and the quantity and chemical character of water yielded by the wells. A limited number of copies are available for free distribution. They may be obtained by addressing a request to Mr. C. S. Clark, Chairman, Texas State Board of Water Engineers, 302 West 15th Street, Austin, Texas.

JACKSON COUNTY, TEXAS

Well records 1 to 243 collected in June to September 1934

By

J. C. Cumley

Records of wells in Jackson County, Texas
(All water-bearing beds are sands.)

No.	Distance from Morales	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
e/ 1	8 miles southwest	Blake Alexander & Mrs. T.E. Peebles	Grover Cleveland	1921	60	4	--	--
2	2 miles west	D. W. Light	do.	1929	87	4	--	--
3	2 miles north	F. C. H. Holzheuser	--	Old	44	12	--	--
4	9 miles northeast	R. J. Clark, Sr.	Roy Budds	1933	61	3	--	--
e/ 5	7½ miles northeast	County of Jackson	--	--	75	4	--	--
6	1 mile south	N. J. Marthiljohni	--	--	58	4	--	--
e/ 7	4½ miles south southwest	Dr. D. W. Shropshire	--	Old	48	4	--	--
8	5½ miles south southwest	G. A. Lowrance	--	Old	44	--	--	--
9	7 miles south southwest	Ed. Lowrance	J. B. Doublas	--	--	12	--	--
10	7½ miles southwest	G. A. Lowrance	--	Old	74	4	--	--
11	5 miles south	Nellie Miller, Est,	W. K. Rose	1914	63	4	63	--
12	3-3/4 miles south-southeast	J. L. Shephard	J. L. Shepherd	1932	40	4	--	--
13	7 miles east-northeast	Wm. E. Taylor	M. T. McNeil	Old	60±	26	--	20
14	7½ miles east-northeast	Mrs. C. V. Watson	Grover Cleveland	1927	80	4	--	--

No.	Distance from Edna	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
51	8½ miles west	Louis Deckert	Louis Deckert	--	52	3	48	4
52	5½ miles west-northwest	S. C. Drushel	Chicago-Gulf Corp.	1934	1,100±	13	1,100±	--
53	5½ miles northwest	do.	John Young	1915	1,300±	4	950±	--
54	5½ miles north-northwest	B. Browning	G. Laughter	1920	77	3½	77	--
55	6½ miles north-northwest	O. E. & Cornelia McNeil	--	1911	56±	--	36±	20±

a/ H, hand pump; W, windmill; J, jack pump; E, electric; G, gasoline or oil engine.
b/ D, domestic; S, stock; P, public supply; I, irrigation; RR, railroad; N, not used.
c/ Hardness as calcium carbonate by the soap method.

(All wells are drilled unless otherwise stated in remarks.)

No.	Water level Below bench mark (ft.)	Water level Date of measurement	Method of lift and power a/	Use of water b/	Chemical tests d/ parts per million Hardness c/	Chemical tests d/ parts per million Chloride	Chemical tests d/ parts per million Bicarbonate	Remarks
1	37.1	July 14, 1934	W	D,S	735	658	338	
2	45.5	June 20, 1934	W	S	532	330	350	Supply reported adequate for 100 head of stock.
3	41.9	July 14, 1934	H	D,I	832	600	436	Water reported injurious to pecan trees.
4	38.2	July 17, 1934	W	S	372	300	336	Aquifer reported to be quicksand.
5	34.1	do.	H	S,P	477	322	312	At "Upper Cordele" School.
6	36.2	July 14, 1934	W	S	922	700	424	
7	--	--	W	D,S	231	120	202	
8	21.5	July 14, 1934	None	N	132	47	112	Abandoned in 1935.
9	+	do.	Flows	S	237	96	342	Temperature 76° F. Flows, 2± gallons a minute.
10	22.8	do.	W	S	356	250	352	Temperature 72½° F.
11	34.3	June 20, 1934	W,H	D,S,I	348	153	374	Yield reported small.
12	38.3	July 14, 1934	H	D,S,I	--	--	--	
13	--	--	--	N	--	--	--	Formerly used for rice irrigation. Yield reported 800 gals. a minute in 1913.f/
14	34.3	July 17, 1934	W	D,S	462	355	272	Reported adequate for 200 head of stock.

No.	Water level Below bench mark (ft.)	Water level Date of measurement	Method of lift and power a/	Use of water b/	Chemical tests d/ parts per million Hardness c/	Chemical tests d/ parts per million Chloride	Chemical tests d/ parts per million Bicarbonate	Remarks
51	--	--	W	D,S,I	150	33	252	Supply reported adequate for 150 head of stock. See log.
52	+	July 5, 1934	Flows	N	93	228	296	Oil test. Temperature 80°F. Flow of 46 gals.a minute measured 2 ft.above ground. See log.
53	+	do.	Flows	D,S,I	318	108	398	Temperature 76°F. Reported well had a flow of 46 gals.a minute when drilled.
54	--	--	W,H	D,S,I	318	108	398	Garden of 1/8 acre irrigated from well. Flow,23.3 gals.a minute. See log.
55	--	July 14, 1934	W,H	D,S	432	222	388	Well was formerly used for rice irrigation.Yield reported 900 gals.a minute in 1913. f/

d/ Made by Margaret D. Foster, Water Resources Laboratory, Federal Geological Survey.
e/ Analysis of water in table of analyses.
f/ Records obtained by Alexander Deussen in 1913.

Record of wells in Jackson County --continued

No.	Distance from Edna	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
56	11 miles north	A. H. Nagel	Audrey McNeil	1909	103	4	--	--
57	9 miles north	S. G. Drushel	T. K. Rose	1918	68	4	--	--
58	4 miles north	S. W. Quarles	Grover Cleveland	1922	80	4	--	--
59	5 miles west northwest	J. H. Tucker	--	--	79	4	--	--
60	6 miles west	Mutual Fire Ins. Co.	--	Old	46	4	--	--
61	8½ miles west-southwest	Virgil Branch	Virgil Branch	1932	55	4	--	--
62	6 miles west-southwest	E. A. Beard	E.A. Beard	1916	82	4	80	--
64	3½ miles west	Wm. Clifford	Layne-Bowler	1914	240	28,9-5/8	--	--
65	2 miles northwest	Jackson Land Co.	--	--	84	4	--	--
66	5 miles north-northeast	S. J. & E. F. Swenson	Grover Cleveland	--	63	4	--	--
67	4½ miles northeast	E. I. Moses	-- Timberlake	1903	1,370	--	1,000	25
68	3½ miles northeast	do.	--	--	126	4	--	--
69	2½ miles northeast	A.E. Westhoff	--	Old	50	4	--	--
70	2 miles west	Jackson Land Co.	Grover Cleveland	1928	65	3½	--	--
71	3 miles west	W. Rogers	Lankton Rose	Old	36	6	--	--
e/ 73	2½ miles southwest	Houston Pipe Line Co.	Layne-Texas Co.	1925	322	8	--	--
74	1½ miles south-southwest	J. H. Tucker	John Young	--	365	--	327	37
75	At Edna	John Young	do.	1912	340	4	300	40
76	do.	S. P. Ry. Co.	Layne-Bowler	1905	444	9-5/8	424	20
77	do.	City of Edna	Layne-Texas Co.	1930	416	6	368	44
78	2½ miles northeast	Rose, Sample Taylor & Bailey	--	--	70±	3	--	--
79	5 miles east-northeast	Harry Sunter	--	Old	112	4	--	--
80	5 miles east	K. Hillyer	--	--	80	4	--	--
81	2½ miles southeast	-- Johnson	--	Old	28	4	--	--

(All wells are drilled unless otherwise stated in remarks)

No.	Water level Below bench mark (ft.)	Water level Date of measurement	Method of lift and power a/	Use of water b/	Chemical tests d/ parts per million Hardness c/	Chloride	Bicarbonate	Remarks
56	33.0	July 17, 1934	W	D,I	435	270	264	Garden irrigated from well.
57	37.4	do.	W	D,S	435	285	340	
58	37±	July 14, 1934	W	D,S,I	300	152	308	Garden irrigated from wells. Supply reported adequate for 200 head of stock.
59	34.0	June 25, 1934	W	D,S	282	106	286	
60	20.1	do.	W	D,S	312	156	376	Supply reported adequate for more than 75 head of stock.
61	31.7	June 29, 1934	W	D,S	255	79	332	Temperature 71° F.
62	19.2	June 25, 1934	W	D,S,I	354	173	404	Garden irrigated from well. See log.
64	30.8	June 26, 1934	H	D,S	201	90	378	Well was used for several years to irrigate 85 acres or more of rice. Reported yield 600 to 800 gals. a minute.
65	33.2	June 20, 1934	W	D,S,I	219	82	388	Used to irrigate yard.
66	37.1	July 27, 1934	H	D,I	780	655	382	Garden irrigated from well.
67	--	--	N	N	--	--	--	Oil test. Reported that water rose 25 feet above the ground when well was drilled. See log.
68	34	July 23, 1934	W	D,S	285	150	376	
69	31.5	July 27, 1934	H	D,S	184	66	308	Yield reported weak.
70	--	--	W	D,S	264	113	366	Supply reported adequate for 100 head of stock.
71	26.2	June 26, 1934	H	D,S	645	330	146	
73	--	--	E 5 H.P.	D,I	166	127	358	Temperature 74° F. See log.
74	--	--	--	--	--	--	--	Well formerly used for irrigation. Reported yield 1,200 gals.
75	--	--	W	D	138	127	372	minute in 1913. f/ See log.
76	26.0	June 27, 1934	N	N	--	--	--	Yield reported 160 gals. a minute in 1913. f/ 6¼-inch casing from 300 to 444 feet. See log.
77	--	--	E 25 H.P.	P	114	146	378	Reported pump capacity 532 gals. a minute. Temperature 74° F. See log.
78	30.8	July 12, 1934	W	D,S,I	216	55	336	
79	--	--	W	D,S	222	120	344	
80	40.0	Aug. 13, 1934	H	D,S	318	136	414	
81	25.2	do.	H	D,S	186	70	506	Yield reported small.

Records of wells in Jackson County --continued

No.	Distance from Edna	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
82	4½ miles south-southwest	Mildred Faulkner	--	--	69	4	--	--
83	6½ miles south	L. S. Tipton	-- Latimer	1931	67	4	--	--
84	5 miles south-southeast	Houston-Gulf Gas Co.	Layne-Texas Co.	1926	270	6-5/8	242	26
85	5 miles southeast	T. J. Barnes	--	--	87	4	--	--
e/ 86	4 miles east-southeast	Mrs. C. M. Hasdorff	John Young	Old	785	4-2	--	--
87	5 miles east-southeast	Fred Westhoff	Pumphrey & Simons	--	875	2	--	--
88	6 miles south-southeast	A. E. Westhoff	Layne-Bowler Co.	1909	431	9-5/8	--	--

No.	Distance from Ganado	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
101	7 miles north	Chester Spencer	L. K. Larkston	1924	175	24,10	--	--
102	6 miles north	J. H. McColloch	Thomas & Paine	1922	175	24,9-5/8	55 155	80 20
103	4½ miles northwest	A. C. Wilbeck	--	1914 ?	56	4	--	--
e/104	3½ miles north-northwest	M. Thellmann	Thomas & Paine	1918	190	24.10	--	--
105	4 miles north	A. M. Robinson et. al.	do.	--	280	24,10	--	--
106	2 miles northwest	Mrs. B. T. Martin	--	Old	61	4	--	--
107	1 mile west	Vaclav Silak	-- Green	1913	56	4	--	--
108	At Ganado	Sugarland Fig Growers Ass'n	Charles Vess	1925	516	8	--	--
109	2 miles northeast	Frank Ratliff	--	--	80±	3	--	--
110	3½ miles northeast	August Johnson	Boyd Brown	1931	52	4	44	8
111	2 miles southeast	Frank Rosner	--	--	50	4	--	--

(All wells are drilled unless otherwise stated in remarks)

No.	Water level Below bench mark (ft.)	Water level Date of measurement	Method of lift and power a/	Use of water b/	Chemical tests d/ parts per million Hardness c/	Chloride	Bicarbonate	Remarks
82	44.1	July 9, 1934	W	D,S	398	355	386	Water has odor of H_2S
83	38.8	do.	W	D,S	357	462	370	Do.
84	--	July 5, 1934	E, 20 H.P.	D,I	67	192	354	Water used for cooling. Temperature 74° F. See log.
85	41.2	Aug. 13, 1934	W	D,S	495	660	484	
86	3.2	July 23, 1934	W	D,S	39	200	340	Flow reported 3 to 4 gals. a minute in 1913 f/. Ceased flowing about 1918. Temperature 78°F.
87	+	do.	Flows	--	--	--	---	Flow reported 15 gals. a minute in 1913. f/
88	20.7	June 27, 1934	N	N	--	--	--	Water level reported 15 feet below ground surface when well was drilled. Well formerly used for rice irrigation. Yield reported 2,500 gals. a minute in 1913. f/

No.	Water level Below bench mark (ft.)	Water level Date of measurement	Method of lift and power a/	Use of water b/	Chemical tests d/ parts per million Hardness c/	Chloride	Bicarbonate	Remarks
101	36.7	July 5, 1934	G, 40 H.P.	I	219	59	250	One hundred acres of rice irrigated from well in 1934. Reported 150 acres have been irrigated
102	39.5	July 23, 1934	G, 40 H.P.	I	--	--	--	One hundred acres [illegible] from it irrigated from well in 193[illegible]. Reported 250 acres have been irri-
103	38.3	July 29, 1934	W	D,S	600	475	380	Supply reported adequate for 100 head of stock
104	--	--	G, 32 H.P.	I	224	76	308	Seventy-[illegible] Temperature 73° F. acres of rice irrigated from well in 1934. Reported 180 acres
105	--	--	G, 32 H.P.	I	285	102	316	have been supplied from it. Reported yield [illegible] gallons a minute. One hundred [illegible]
106	31.9	July 29, 1934	H	D,S	291	103	368	acres of rice irrigated from
107	--	--	W,H	D,S	375	45	484	Filled up and [illegible] abandoned in 19[illegible] Driven well
108	28.1	July 5, 1934	N	N	--	--	--	Formerly used to supply water for canning factory
109	30.1	July 12, 1934	W,H	D,S	303	135	358	
110	--	--	W	D,I	354	121	470	Aquifer in gravel. Garden irrigated from well
111	24.7	Aug. 17, 1934	H	D	354	149	294	

Records of wells in Jackson County --continued

No.	Distance from Ganado	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
112	3 miles south southeast	T. M. Weber et. al.	County of Jackson	1933	55	3	---	--
113	5 miles south	Jerry Tomas	--	--	50	4	--	--
114	4 miles south southeast	J. M. Voss	--	--	--	--	--	--
115	4 miles southeast	R. W. Stillman	--	--	45	3½	--	--
116	6 miles east southeast	Mauritz Bros.	--	--	42	1-3/4	--	--
117	6 miles southeast	Albert Ross	--	--	60	4	--	--
118	7 miles southeast	Maggie Branch	John Young	Old	365	1-3/4	--	--
119	6⅔ miles south	L. S. Horton	--	--	63	3	--	--
120	8½ miles south	Chas. Brandes	-- Cleveland	1920	65	4	--	--
121	7½ miles south southeast	Mauritz Bros.	John Young	--	223	2	--	--
122	8 miles south southeast	Eli Bell	Charles Voss	1929	---	26, 10	--	--
e/123	9 miles southeast	Mrs. L. W. Smith	Mrs. L. W. Smith	1919	54	4	--	--
124	12½ miles southeast	C. S. Voas Est.	-- Green	1921	72	3	--	--
125	12 miles southeast	Mauritz Bros.	J. M. Ricks	1918	340	22 9-5/8	160 225 265	40 20 70
126	10 miles south southeast	McCrory & Westhoff	do.	1922	330	30, 10	210 250	30 50

No.	Distance from Francitas	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
150	At Francitas	Mauritz Bros.	--	Old	2,640	---	--	--
e/151	3 miles southwest	Byron Clark	--	--	90½	4	--	--
152	5½ miles south	Fred Schmidt	--	Old	96	3	--	--
153	7½ miles south	Amer. Natl. Realty Co. of Galveston	--	Old	350±	3	--	--
154	9 miles south southwest	Mrs. C. V. Parfet	--	Old	550±	2	--	--

(All wells are drilled unless otherwise stated in remarks)

No.	Water level: Below bench mark (ft.)	Water level: Date of measurement	Method of lift and power a/	Use of water b/	Chemical tests d/ parts per million: Hardness c/	Chloride	Bicarbonate	Remarks
112	--	--	W	D,S	--	--	--	
113	26.8	Aug. 13, 1934	H	D,S	276	40	420	
114	30.0	do.	W	S	--	--	--	
115	26.4	July 8, 1934	W	D,S	330	90	498	
116	--	--	W	D,S	900	38	420	Driven well.
117	--	--	H	D,S	396	55	426	
118	2.1	Aug. 7, 1934	N	N	--	--	--	Reported that well had a small flow until about 1911. Is now filled with mud.
119	30.6	July 31, 1934	W	D,S	279	78	444	
120	--	--	W,H	D,S	390	191	450	
121	4	Aug. 7, 1934	N	N	--	--	--	Reported that well had a small flow until about 1911.
122	26.2	July 18, 1934	G, 40 H.P.	I	--	--	--	Eighty acres of rice irrigated from well in 1934.
123	24.6	July 31, 1934	W	D,S	288	24	358	
124	15.2	do.	W	D,S	393	236	416	
125	18.8	Aug. 28, 1934	G, 85 H.P.	I	330	132	338	Temperature 75½° F. Three hundred acres of rice irrigated from well in 1934.
126	21.5	July 18, 1934	G, 40 H.P.	I	321	80	430	Eighty acres of rice irrigated from well in 1934. Reported that 140 acres have been irrigated from it. Temperature 72½°F.

No.	Water level: Below bench mark (ft.)	Water level: Date of measurement	Method of lift and power a/	Use of water b/	Chemical tests d/ parts per million: Hardness c/	Chloride	Bicarbonate	Remarks
150	--	--	N	N	--	--	--	Oil test; plugged and abandoned.
151	19.0	July 31, 1934	W	D,S	303	134	352	
152	--	--	W,H	D,S	414	310	438	Water reported injurious to plants.
153	5	Sept. 8, 1934	W	S	148	45	328	Temperature 75° F.
154	+	do.	Flows	D,S	24	91	380	Flow of 9.4 gals. a minute measured at a level of 6 feet above ground. Temperature 78° F.

Records of wells in Jackson County--continued

No.	Distance from Francitas	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
155	10 miles south	Palacios State Bank	--	--	320	2	--	--
156	do.	Bennie Elliott	--	--	350±	2½	--	--
e/157	11 miles south	-- Hucy	--	--	520	2½	--	--
158	12 miles south southwest	Fluke Frankson	Geo. Barnett	--	520	2	--	--

No.	Distance from La Ward	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
176	6 miles west northwest	P. W. Clement	--	--	112	4	--	--
177	5 miles northwest	A. P. Woodruff	--	1918	55	4	--	--
178	3½ miles northwest	Flowers & Ward	Layne-Texas Co.	1926	472	22, 9-5/8	--	--
179	3½ miles north	Louis Bonnot	-- Schutt	1896	125	4	--	--
180	At La Ward	L. Ward	V. E. Damstrom	Old	100±	4	--	--
e/181	5 miles west	I. N. Mitchell	-- Whitaker	1914	1,234	4	1,213±	20±
182	do.	C. S. Mitchell	--	--	34	6	--	--
183	6 miles west	I. N. Mitchell	V. E. Damstrom	1919	444	2	434	10
184	7 miles west southwest	Mrs. C. Mitchell	do.	1919	404	2	394	10
185	6½ miles southwest	H. C. Coates	do.	--	556	2	--	--
186	5 miles south southwest	L. D. Flowers	--	--	550±	3½	--	--
e/187	3½ miles south	L. Ward	V. E. Damstrom	--	500±	2	--	--
188	3 miles east southeast	H. M. & A. I. Burditt	--	--	24	6	--	--
189	5 miles southeast	L. D. Flowers	V. E. Damstrom	1917	563	2	60 345	6 18
190	do.	do.	do.	1917	440	2½	425	15

(All wells are drilled unless otherwise stated in remarks)

No.	Water level Below bench mark (ft.)	Water level Date of measurement	Method of lift and power a/	Use of water b/	Chemical tests d/ parts per million Hardness c/	Chloride	Bicarbonate	Remarks
155	+	Sept. 8, 1934	Flows	D,S	124	45	336	Flow of 5.5 gals. a minute measured at a level of 3 feet above ground. Temperature 75° F.
156	+	do.	Flows	D,S	20	66	402	Flow of 4.0 gals. a minute measured at outlet 3 feet above ground. Temperature 75° F.
157	+	do.	Flows	D,S	33	63	362	Flow of 1.5 gals. a minute measured at outlet 1 foot above ground. Temperature 77° F.
158	+	do.	Flows	D,S,I	18	62	332	Flow of 4.0 gals. a minute measured at outlet 8 feet above ground. Temperature 77° F. ½ acre irrigated from well.
176	48.1	Aug. 13, 1934	H	D,S	303	280	368	Water has a milky appearance.
177	39.1	do.	W	D,S	216	28	352	
178	--	--	G, 85 H.P.	I	99	75	320	Two hundred acres of rice irrigated from well in 1934. Tempe-
179	30.2	July 31, 1934	W	D,S,I	426	152	362	Lawn and garden rature 75° F. irrigated from well.
180	82.5	do.	J,G	D	273	32	384	
181	+	Aug. 24, 1934	Flows	D,S,I	75	720	484	Temperature 82° F. Water has a taste of H_2S. Flow, 35 gals. a
182	25.9	Aug. 13, 1934	W	D,S	--	--	--	minute.
183	+	Aug. 24, 1934	Flows	S	237	1390	388	Temperature 76½° F. Flow, 19 gals. a minute. See log.
184	+	do.	Flows	S	303	2085	294	Temperature 77° F. Flow, 30± gals. a minute. See log.
185	--	--	Flows	S	--	--	--	Reported to have had a flow of 3 gals. a minute when drilled. Water reported salty.
186	+	Aug. 24, 1934	Flows	S	204	1735	342	Temperature 77½° F. Flow 3 gals. a minute.
187	+	do.	Flows	S	--	--	--	Temperature 77° F. Flow, ½ gals. a minute. Water reported salty.
188	19.7	July 31, 1934	W	D,S,I	273	113	514	
189	+	-- 1917	Flows	S	--	--	--	Reported to have had a flow of 18 gals. a minute 6 feet above the ground when drilled. See log.
190	+	Aug. 24, 1934	Flows	S	75	45	308	Temperature 76° F. Flow, 5 gals. a minute. See log.

Records of wells in Jackson County--continued

No.	Distance from La Ward	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
191	5½ miles south southeast	L. D. Flowers	--	--	350±	2	--	--
192	5 miles south southeast	do.	--	--	350±	2	--	--
193	7 miles south	H. C. Coates	V. E. Damstrom	1910	360	2	80 350	15 10
194	7½ miles south	Mrs. C. A. Mitchell	do.	1915	440	2	80 425	20 15
195	8½ miles south southwest	Mrs J. Brooking	do.	--	335	2	70 330	10 5
196	11½ miles south-west	W. L. Traylor	do.	--	345	--	60 330	15 15
197	8 miles south	County of Jackson	do.	--	335	2	--	--
198	8½ miles south	Ed. Lowrance	Grover Cleveland	1934	47	4	--	--
199	8 miles south	L. O. Hensley	V. E. Damstrom	--	360	2	--	--
200	9 miles south	J. F. Weed	do.	--	448	2	430	18

No.	Distance from Vanderbilt	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
226	2 miles west	J. M. Bennett	--	Old	40	--	--	--
227	3 miles north-west	W. A. Utzman	--	--	--	28,10	--	--
228	do.	do.	Layne-Bowler Co.	1909	428	22,10±	--	--
229	do.	do.	--	--	189½	4	--	--
230	5½ miles north-east	Royal Dedman	--	Old	131	4	--	--
231	2 miles north	J. H. Tucker	--	1927?	54½	4	--	--
232	At Vanderbilt	Otto Rodeker	Grover Cleveland	1919	106	4	--	--
233	½ mile west	M. P. Ry. Co.	John Young	1906	1,124	6,4	1,094	28
234	5 miles west	J. M. Bennett	do.	Old	850	2	--	--
235	do.	do.	do.	Old	325	2	--	--

(All wells are drilled unless otherwise stated in remarks.)

No.	Water level: Below bench mark (ft.)	Water level: Date of measurement	Method of lift and power a/	Use of water b/	Chemical tests d/ parts per million: Hardness c/	Chemical tests d/ parts per million: Chloride	Chemical tests d/ parts per million: Bicarbonate	Remarks
191	+	Aug. 24, 1934	Flows	S	39	73	312	Temperature 76° F. Flow, 11 gals. a minute.
192	+	do.	Flows	S	94	62	308	Temperature 76° F. Flow, 4¾ gals. a minute.
193	+	-- 1910	Flows	S	--	--	--	See log.
194	+	-- 1915	Flows	S	--	--	--	Do.
195	+	Aug. 16, 1934	Flows	S	24	255	410	Temperature 75° F. Flow, 1 gal. a minute. See log.
196	--	--	Flows	S	--	--	--	See log.
197	0.7	Aug. 16, 1934	W	D,S	--	--	--	
198	23.2	do.	W	D,S	504	126	372	
199	+	Aug. 29, 1934	W Flows	D,S	26	128	356	
200	+	--	Flows	S	--	--	--	Reported to have an intermittent flow. See log.

No.	Water level: Below bench mark (ft.)	Water level: Date of measurement	Method of lift and power a/	Use of water b/	Chemical tests d/ parts per million: Hardness c/	Chemical tests d/ parts per million: Chloride	Chemical tests d/ parts per million: Bicarbonate	Remarks
226	--	--	W	S	--	--	--	Supply reported adequate for 500 head of stock.
227	24	July 9, 1934	N	N	--	--	--	Well was formerly used for irrigation.
228	8.2	do.	N	N	--	--	--	Two hundred acres of rice were irrigated from well for several years. See log.
229	33.5	do.	W	D,S	87	360	374	
230	37.4	Aug. 13, 1934	W	D,S	189	372	310	
231	38.9	July 16, 1934	W	D,S,I	414	535	404	
232	36.8	July 9, 1934	N	N	--	--	--	
233	+	do.	Flows	D,P, RR	32	245	440	Temperature 85° F. Flows, 30 gals. a minute. Abandoned in 1937. See log.
234	+	July 17, 1934	Flows	D,S	45	260	404	Flow of 13.6 gals. a minute measured at a level 3½ feet above ground. Temperature 81° F.
235	+	do.	Flows	S	76	248	390	Flow of 1.6 gals. a minute measured at a level 1½ feet above ground. Temperature 75° F.

Records of wells in Jackson County--continued

No.	Distance from Vanderbilt	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing beds: Depth to top of bed (ft.)	Water-bearing beds: Thickness (ft.)
236	5 miles southwest	J. M. Bennett	-- Powell	--	58	2	--	--
237	do.	do.	John Young	Old	292	2	--	--
238	do.	do.	do.	Old	150±	2	--	--
e/239	6 miles south southwest	do.	do.	Old	179	2	--	--
240	7 miles south	do.	do.	1904	452	2	--	--
241	6 miles south	do.	Pete Matak	1933	600±	2	--	--
242	5½ miles south	do.	John Young	Old	575	2	--	--
243	5 miles south	Mrs. N. B. West	do.	Old	146	2	--	--

a/ H, hand pump; W, windmill; J, jack pump; E, electric; G, gasoline or oil engine.
b/ D, domestic; S, stock; P, public supply; I, irrigation; RR, railroad, N, not used.
c/ Hardness as calcium carbonate by the soap method.

(All wells are drilled unless otherwise stated in remarks)

No.	Water level: Below bench mark (ft.)	Water level: Date of measurement	Method of lift and power a/	Use of water b/	Chemical tests d/ parts per million: Hardness c/	Chloride	Bicarbonate	Remarks
236	+	July 17, 1934	Flows	S	168	478	392	Flow of 2 gals. a minute measured at a level 2 feet above ground. Temperature 76° F.
237	+	do.	Flows	D,S	70	330	404	Flow of 6.4 gals. a minute measured at a level 1 foot above ground. Temperature 75° F. Reported flow 45 gals. a minute in 1913.f/
238	+	do.	Flows	S	180	480	360	Flow of 1.7 gals. a minute measured at a level 1½ feet above ground. Temperature 76½° F.
239	+	do.	Flows	S	162	335	392	Flow of 2.3 gals. a minute measured at a level 3 feet above ground. Temperature 74½° F
240	+	do.	Flows	S	99	510	360	Flow of 4.2 gals. a minute measured at a level 1½ feet above ground. Temperature 77½° F.
241	+	do.	Flows	S	150	900	340	Flow of 4.6 gals a minute measured at a level 3 feet above ground. Temperature 79° F.
242	+	do.	Flows	S	120	825	360	Flow of 6 gals. a minute measured at a level 1 foot above ground. Temperature 79° F.
243	+	--	Flows	S	--	--	--	f/

d/ Made by Margaret D. Foster, Water Resources Laboratory, Federal Geological Survey.
e/ Analysis of water in table of analyses.
f/ Records obtained by Alexander Deussen in 1913.

JACKSON COUNTY, TEXAS

Well records 301 to 382 collected in September 1942

By

C. R. Follett

Records of wells in Jackson County, Texas

All wells are drilled unless otherwise stated in Remarks

Well	Distance from Morales	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
301	7⅓ miles northeast	O. B. Fenner	O. E. Mickelson	1942	274	4	0.0
302	9 miles northeast	L. Miller	do.	1941	378	4	--
303	do.	I. Wendle	do.	1942	504	4	--
304	6 miles northeast	O. B. Fenner	do.	1942	217	12	0.5
305	5⅔ miles northeast	do.	do.	1942	302	12	0.5
306	5 miles south	A. L. Miller Est.	Grover Cleveland	1936	76	4	1.5
307	At Navidad	do.	do.	1934	76	4	1.5
308	5½ miles southwest	J. H. Robinson	do.	1935	425	4	.0
309	7⅔ miles southwest	S. G. Drushel	O. E. Mickelson	1940	252	16,12	--
310	8 miles southwest	do.	do.	1942	240	12	--

Well	Distance from Edna	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
311	8⅔ miles north	Magnolia Petroleum Co.	A. H. Masiran	1939	104	8	--
312	9 miles north	Humble Oil and Refining Co. No. 1	L. Patterson	1939	173	4	--
313	4 miles northeast	G. A. Harrison	C. E. Mickelson	1941	506	20,16, 12	1.0
314	3¾ miles west	W. Rogers	--	1935	111	6	1.0
315	2¾ miles southwest	Houston Pipe Line Co.	John Young	1926	420±	6	--
316	do.	do.	do.	1926	380±	6	--

a/ Plus (+) indicates water level is above ground.

b/ T, turbine; A, air lift, natural gas or steam lift; C, cylinder; Cf, centrifugal; G, gas, gasoline, oil or steam engine; E, electric; W, windmill; H, hand. Number indicates horsepower.

Chemical analyses of water from most of these wells are shown in a table of analyses on pages 45 to 49.

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Reported yield (g.p.m.)	Remarks
301	33.25	Sept. 30, 1942	None	N	--	Drilled as test for rice irrigation. See log.
302	--	--	None	N	--	Do.
303	--	--	None	N	--	Do.
304	42.25	Dec. 15, 1942	T,G, 40	I	1,050	Casing slotted from 72 to 217 feet. This well and well 305 irrigated 31 acres of rice in 1942. See log.
305	43.81	do.	T,G, 40	I	1,050	Casing slotted at 65-100, 108-122, 134-144 and 156-210 feet. See log.
306	33.53	Sept. 5, 1936	C,W	D,S	--	Sand reported from 65 to 76 feet.
307	37.21	do.	C,W	D	--	
308	+20.4	Oct. 1, 1942	Flows	D,S	e/32	Temperature 75° F.
309	d/45	1940	T,G, 40	I	1,000	Casing: 16-inch to 89 feet; 12-inch from 89 to 252 feet. Casing slotted at 56-86, 144-164, 184-218 and 228-252 feet. This well and well 310 irrigated 245 acres of rice in 1942.
310	d/45	1940	T,G, 90	I	600	Casing slotted at 79-161, 192-206, and 220-236 feet. See log.

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Reported yield (g.p.m.)	Remarks
311	--	--	A	D,S	45	S. G. Drushel lease. See log.
312	--	--	C,E, 3/4	C,S	--	P. F. Kubecka lease . See log.
313	29.73	Dec. 15, 1942	T,G, 125	I	2,400	Casing: 20-inch to 98 feet; 16-inch from 98 to 118 feet; 12-inch from 111 to 506 feet. Casing slotted at 103-118, 129-149, 181-201, 215-235, 245-255, 271-286, 293-300, 330-352, 387-407, 430-444, and 464-506 feet. Irrigated 375 acres of rice in 1942.
314	24.63	Sept. 5, 1936	C,W	D,S	--	Temperature 74½° F. See log.
315	--	--	A	Ind	250	This well and well 316 yield about 35,000 gallons a day. Water used for cooling at pump station.
316	d/26	--	A	Ind	250	

c/ I, irrigation; P, public supply; Ind, industrial (usually oil field); D, domestic; S, stock; RR, railroad; N, not used.
d/ Water level reported by owner or driller.
e/ Flow measured in 1942 by C. R. Follett.

Records of wells in Jackson County--Continued

Well	Distance from Ganado	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
317	5 miles northwest	Mrs. I. S. Walker	--	Old	192	24,10	--
318	5 miles north	G. Carstien	M. Picks	Old	252	24,10	0.5
319	3⅝ miles north	Picks Bros.	--	Old	250±	24,10	--
320	4 miles north	Mrs. I. S. Walker	--	Old	272	24,10	--
321	4 miles northwest	-- Tunison	--	Old	200±	24,10	--
322	2 miles northwest	Mrs. B. W. Martin	--	1939	87	3	2.0
323	1¼ miles north	Houston Pipe Line Co.	--	Old	250±	24,10	--
324	At Ganado	Sugarland Fig Growers Assn.	--	--	--	4	0.5
325	do.	Texas and New Orleans Ry.	McMasters and Pomeroy	1915?	300±	--	--
326	do.	City of Ganado	do.	1937	267	6	.0
327	3¼ miles southeast	The Texas Co. No. 1	L. Patterson	1937	294	5	.0
328	4½ miles southeast	Humble Oil and Refining Co. No.5	do.	1942	157	4	--
329	do.	Humble Oil and Refining Co. No.4	do.	1942	135	4	--
330	5 miles southeast	Humble Oil and Refining Co. No.6	do.	1942	145	4	--
331	do.	Humble Oil and Refining Co. No.3	do.	1942	176	4	--
332	5 miles southeast	Humble Oil and Refining Co. No.2	do.	1942	180	4	--
333	5⅝ miles southeast	Humble Oil and Refining Co. No.1	do.	1942	170	4	--
334	do.	The Texas Co. No. 1	Ferguson Oil Co.	1940	316	4	--
335	do.	do.	do.	1941	312	5	--
336	7 miles southeast	Sun Oil Co.	Sun Oil Co.	1942	5,423	---	--

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Reported yield (g.p.m.)	Remarks
317	--	--	T,G, 90	I	1,400	Irrigated 165 acres of rice in 1942. Not used from 1918 until 1941.
318	30.31	Dec. 16, 1942	T,G, 60	I	1,300	Irrigated 180 acres of rice in 1942. Not used from about 1918 to 1941.
319	--	--	T,G	I	--	Irrigated 90 acres of rice in 1942.
320	--	--	T,G	I	1,600	Irrigated 100 acres of rice in 1942.
321	--	--	T,G	I	--	Irrigated 200 acres of rice in 1942.
322	32.93	Mar. 8, 1940	C,H	D,S	--	Drilled to replace well 320.
323	--	--	T,G	I	700	Irrigated about 80 acres of rice in 1942. Temperature 72° F.
324	28.15	July 5, 1934	None	N	--	Formerly supplied drilling caustic plant.
325	--	--	T,G	RR	--	
326	d/25	Aug. 1937	T,E, 7½	P	150	Screen from 224 to 256 feet. Drawdown reported 10 feet after pumping 169 gallons a minute for 36 hours when drilled. Supplies Ganado Inn an average of 35,000 gallons a day
327	d/20	July 28, 1937	None	N	150	Niebuhr Temperature 74° F. See log. lease. Wells 327 to 335 formerly supplied water for drilling oil tests. Screen from 272 to 292 feet.
328	--	--	None	N	--	Maggie Branch lease. Screen See log. from 135 to 157 feet. See log.
329	--	--	None	N	--	Maggie Branch lease. Screen from 112 to 135 feet. See log.
330	--	--	C,W	D,S	--	Maggie Branch lease. Cased to bottom. Screen from 123 to 145 feet. See log.
331	--	--	None	N	--	Maggie Branch lease. Screen from 152 to 176 feet. See log.
332	--	--	None	N	--	Maggie Branch lease. Screen from 157 to 180 feet. See log.
333	--	--	None	N	--	Maggie Branch lease. Screen from 146 to 170 feet. See log.
334	--	--	None	N	250	F. V. Tunison lease. Cased with bottom 24 feet of casing slotted.
335	--	--	None	N	200	Hanna Ross lease. Cased See log. to bottom with lowermost 21 feet
336	--	--	--	--	--	Oil test on Hanna slotted. See log. Ross lease. Electrical log from 1,012 to 5,423 feet in files of Texas State Board of Water Engineers shows 4 thin sands between 1,012 and 1,400 feet which may yield potable water; water in sands below 1,400 feet probably contains more highly mineralized water.

Records of wells in Jackson County--Continued

Well	Distance from Ganado	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
337	8½ miles southeast	Rose and Sample	--	Old	--	24,10	3.0
338	do.	Harry Myer	C. E. Mickelson	1938	495	24,12	3.5
339	8 miles southeast	Humble Oil and Refining Co. No.1	L. Patterson	1940	325	4	--
340	8½ miles southeast	do.	do.	1941	416	4	--
341	9 miles southeast	do.	do.	1941	433	4	--
342	9½ miles southeast	Magnolia Petroleum Co. No. 1	do.	1941	293	4	--
343	10 miles southeast	Mauritz Bros.	--	Old	--	24,10	--
344	13 miles southeast	Drought Land Co.	--	Old	350±	24,10	--
345	13 miles southeast	Mauritz Bros.	M. T. Huebner	1938	797	4	1.5
346	do.	do.	--	1942	105	2	--
347	do.	do.	O. E. Mickelson	1941	401	17,12	5.0
348	14 miles southeast	do.	do.	1941	494	4	--

Well	Distance from Francitas	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
349	3½ miles north	Mauritz Bros.	O. E. Mickelson	1941	421	17,12	--
350	2 miles northwest	do.	--	1940	780	2	2.0
351	2½ miles northeast	do.	--	1940	820	2	2.5
352	1 mile southwest	do.	M. T. Huebner	1938	199	3	--
353	3¼ miles southwest	do.	do.	1938	735	2	1.5

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Reported yield (g.p.m.)	Remarks
337	26.74	Sept.28, 1942	T,G, 35	I	600	Irrigated 75 acres of rice in 1942.
338	28.64	do.	T,G, 60	I	2,000	Casing: 24-inch to 60 feet; 12-inch from 60 to 330 feet. Screen at 63-83, 94-102, 187-222, 249-269, and 295-325 feet. Irrigated 250 acres of
339	--	--	None	N	--	A. A. Egg lease. Wells 339 and 342 formerly supplied water for drilling oil tests. Screen from 300 to 325 feet.
340	--	--	None	N	--	Mauritz "B" lease. Not used after supplying water for drilling oil test. Screen from 395 to 416
341	--	--	A	Ind	70	F. S. Robbins lease. feet. Screen from 408 to 43? feet. Tempera-
342	--	--	None	N	--	W. F. Vordick ture 76° F. lease. Screen from 272 to 295 feet.
343	--	--	T,G, 57	I	1,500	Irrigated 150 acres of rice in 1942. Temperature 74° F.
344	--	--	T,G, --	I	600	Irrigated 112 acres of rice in 1942. Temperature 75° F.
345	+ 1	Sept.26, 1942	Flows	D,S	e/ 2	Screen from 777 to 797 feet. Tempera- ture 75½° F.
346	--	--	C,H	D,S	--	Cased to 95 feet. Sand reported from 95 to 105 feet.
347	31.01	Sept.26, 1942	T,G, 110	I	2,000	Casing: 17-inch to 106 feet; 12-inch from 106 to 401 feet. Casing slotted at 81-106, 132-142, 165-245, 292-312, and 337-397 feet. Irrigated 330 acres of rice in 1942.
348	--	--	None	N	--	Drilled as test for rice irrigation.

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Reported yield (g.p.m.)	Remarks
349	--	--	T,G, 110	I	2,000	Casing: 17-inch to 114 feet; 12-inch from 114 to 421 feet. Casing slotted at 70-112, 139-154, 184-199, 209-219, 229-263, 278-298, 332-350, 356-373, and 393-418 feet. Irrigated 330 acres of rice in 1942.
350	+ 5.0	Sept.28, 1942	Flows	S	e/ 5	Temperature 79° F.
351	+ 6.3	do.	Flows	D,S	e/ 4	Temperature 80° F.
352	--	--	C,W	S	--	Screen from 180 to 195 feet.
353	+ 6.9	Sept.29, 1942	Flows	S	e/ 15	Screen from 715 to 735 feet. Tempera- ture 79° F.

Records of wells in Jackson County--Continued

Well	Distance from Francitas	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
354	4 miles south	Francitas Gas Co. No.1	Texas Water Supply Corp.	1941	386	10, 8	--
355	do.	Francitas Gas Co. No.2	do.	1941	382	10, 8	--
356	do.	Francitas Gas Co. No.3	do.	1941	377	10, 8	--
357	10 miles south	A. V. Raplee	--	Old	400±	24, 10	2.5

Well	Distance from La Ward	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
358	6 miles northwest	Magnolia Petroleum Co. No. 1	L. Patterson	1942	302	4	--
359	5 miles northwest	Magnolia Petroleum Co. No. 3	do.	1941	114	4	2.0
360	5 miles northwest	Magnolia Petroleum Co. No. 5	do.	1941	329	4	--
361	4¼ miles northwest	Humble Oil and Refining Co. No.1	do.	1941	130	4	--
362	4 miles northwest	Humble Oil and Refining Co. No.6	do.	1942	109	4	3.0
363	4¾ miles north	Humble Oil and Refining Co. No.1	do.	1941	426	6	--
364	4½ miles north	Humble Oil and Refining Co. No.2	do.	1942	230	4	--
365	3 miles west	Magnolia Petroleum Co. No. 1	do.	1940	415	6	5.0
366	do.	Magnolia Petroleum Co. No. 2	do.	1940	510	6	4.5
367	do.	Magnolia Petroleum Co. No. 3	do.	1940	283	6	--
368	do.	Humble Oil and Refining Co. No.1	do.	1940	272	4	--
369	2¾ miles west	"L" Ranch Co.	O. E. Mickelson	1941	445	18,16, 12	--
370	5 miles west	Magnolia Petroleum Co. No. 1	L. Patterson	1940	81	6,4	--

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Reported yield (g.p.m.)	Remarks
354	d/ 35	1942	T,G, 125	Ind	650	Casing: 10-inch from 0 to 156 feet; 8-inch from 156 to 388 feet. Screen: 60 feet of 8-inch. Wells 354 to 356 supply 1,000,000 gallons of water a day for compressor station. See log.
355	d/ 35	1942	T,G, 125	Ind	650	Casing: 10-inch to 141 feet; 8-inch from 141 to 362 feet. Screen: 71 feet of 8-inch. Temperature 76° F.
356	d/ 35	1942	T,G, 125	D,Ind	650	Casing: 10-inch to 142 feet; 8-inch from 142 to 177 feet. Screen: 60 feet of 8-inch. Tempera- See log.
357	11.45	Sept. 29, 1942	C,T, W,G	D,S,I	--	Irrigated 60 ture 76° F. See log. acres of rice in 1942.

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Reported yield (g.p.m.)	Remarks
358	--	--	None	N	--	W. C. Moody lease. Screen from 282 to 302 feet. Wells 358 to 368 formerly supplied water for drilling oil
359	29.39	Sept. 25, 1942	None	N	--	Gordon Estate tests. See log, lease. Casing slotted from 70 to 114
360	---	--	A	Ind	75	Gordon Estate lease. feet. See log Screens at 227-248 and 306-329 feet.
361	--	--	None	N	--	Four-Way Ranch lease. See log. Screen from 85 to 105 feet. See log.
362	27.08	Sept. 25, 1942	None	N	--	Four-Way Ranch lease. Screen from 85 to 109 feet. See log.
363	--	--	T,E	D	--	Louise Bennot lease. Screen from 405 to 426 feet. See log.
364	--	--	A	Ind	75	Alberta Gayle lease. Screen from 205 to 230 feet. Temperature 73.5° F. See
365	28.13	Sept. 25, 1942	A	N	--	Four-Way Ranch lease. Screen at log. 357-381 and 395-415 feet. See log.
366	27.16	do.	A	N	--	Four-Way Ranch lease. Screen from 462 to 510 feet. See log.
367	--	--	None	N	--	Four-Way Ranch lease. Screen from 258 to 283 feet. See log.
368	--	--	A	D	--	"L" Ranch "3" lease. Screen from 251 to 272 feet. See log.
369	d/ 35	1942	T,G, 125	I	2,700	Casing: 18-inch to 85 feet; 16-inch from 85 to 127 feet; 12-inch from 127 feet to bottom. Casing slotted at 85-95, 105-127, 145-156, 174-192, 227-235, 255-261 and 278-445 feet. Irrigated 510 acres of rice in 1942.
370	--	--	C,G, 6	D	--	Mary Mitchell lease. See log. Drilled to 180 feet and plugged at 81 feet. Screen from 62 to 79 feet. See log.

Records of wells in Jackson County--Continued

Well	Distance from Vanderbilt	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
371	At Vanderbilt	Missouri Pacific Ry. No. 2	LeMasters and Pomeroy	1937	1,374	8, 6, 4	--
372	do.	Town of Vanderbilt	do.	1934	1,143	7	4.0
373	do.	Charles Breckel	D. P. Cudd	Old	340	2	--
374	1¼ miles south	Glasscock Bros.	Glasscock Bros.	1939	1,235	4	3.0
375	1½ miles southeast	Humble Oil & Refining Co. No.1	L. Patterson	1939	1,208	2-7/8	5.5
376	2 miles south	Magnolia Petroleum Co. No. 4	do.	1939	1,232	7, 4½	--
377	4 miles southeast	Magnolia Petroleum Co. No. 3	Rushing Bros.	1939	1,230	13-3/8	4.5
378	do.	Magnolia Petroleum Co. No. 2	McMasters and Pomeroy	1938	1,235	7,5	5.0
379	5 miles south	Magnolia Petroleum Co. No. 1	C. E. Eaton	1937	539	7,5	--

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Reported yield (g.p.m.)	Remarks
371	+d/ 38	Aug. 30, 1937	Flows C,G, 75	PR	272 (pumped)	An original depth of 1,148 feet, with screen from 1,106 to 1,148 feet, flowed 71½ gallons a minute and when pumped yielded 200 gallons a minute with a drawdown of 86 feet. When deepened to 1,374 feet with screen added from 1,188 to 1,288 feet flowed 191 gallons a minute and when pumped yielded 458 gallons a minute with drawdown of 70 feet. Temperature 87° F.
372	+	Sept. 24, 1942	Flows	S	e/ 20	Formerly supplied water for drilling oil test. Temperature 84° F.
373	d/ 9	--	C,W	D,S	--	Flowed when drilled. Temperature 75° F.
374	+ 36.5	Sept. 24, 1942	Flows	D,S Ind	e/ 132	J. E. Drummond lease. Formerly supplied water for drilling oil tests. Cased at bottom. Bottom 40 feet perforated. Temperature 86° F.
375	+ 56	do.	Flows	D, Ind	25	M. H. Toney lease. Casing: 7-inch to 85 feet; 4-inch from 85 to 1,164 feet. Screen from 1,164 to 1,207 feet. Original flow was 125 gallons a minute. Temperature 86½° F. See log.
376	+d/ 32	Nov. 29, 1939	Flows Cf,L	D,S Ind	--	West Ranch "A" lease. Supplies 30 houses. Casing: 7-inch to 1,131 feet, cemented, 4½-inch from 1,172 to 1,190 feet. Screen from 1,190 to 1,252 feet. See log.
377	+ 35.5	Sept. 24, 1942	Flows	Ind	e/ 149	West Ranch "A" lease. Converted oil test plugged at 1,230 feet. Casing: 13-3/8-inch, gun-perforated with 100 holes between 1,175 and 1,225 feet. Temperature 86½° F.
378	+ 34.5	do.	Flows	Ind	e/ 208	West Ranch "A" lease. Casing: 7-inch to 1,172 feet, cemented; 5-inch screen from 1,172 to 1,255 feet. Temperature 86° F.
379	+d/	1937	--	--	--	West Ranch "A" lease. Wells 379 to 382 formerly supplied water for drilling oil tests. Casing: 7-inch to 560 feet, cemented; 5-inch from 536 to 564 feet. Screen from 564 to 589 feet. Well flowed salty water and was plugged at 437 feet. and gun-perforated from 427 to 437 feet and flowed. See log.

Records of wells in Jackson County--Continued

Well	Distance from Vanderbilt	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
380	3¾ miles southwest	Magnolia Petroleum Co. No. 5	L. Patterson	1939	1,220	6	---
381	do.	Magnolia Petroleum Co. No. 6	do.	1940	1,210	6, 4½	2.0
382	4 miles west	Humble Oil & Refining Co. No. 1	do.	1941	390	4	---

a/ Plus (+) indicates water level is above ground.
b/ T, turbine; A, air lift, natural gas or steam lift; C, cylinder; Cf, centrifugal; G, gas, gasoline, oil or steam engine; E, electric; W, windmill; L, sand. Number indicates horsepower.

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Reported yield (g.p.m.)	Remarks
380	+d/	1939	Flows	N	--	West Ranch "A" lease. Casing: 6-inch to 1,170 feet, cemented; 6-inch screen from 1,170 to 1,213 feet. See log.
381	+ 42	Sept. 23, 1942	Flows	N	e/ 139	West Ranch "A" lease. Casing: 6-inch to 1,176 feet, cemented; 4½-inch from 1,145 to 1,167 feet. Screen from 1,167 to 1,210 feet.
382	--	--	--		--	J. M. Bennett lease. Screen from 367 to 390 feet. See log. Temperature 87½° F. See log.

a/ I, irrigation; P, public supply; Ind, industrial (usually oil field); D, domestic S, stock; RR, railroad; N, not used.
d/ Water level reported by owner or driller.
e/ Flow measured in 1942 by C. R. Follett.

Table of Drillers' Logs, Jackson County, Texas

	Thickness (feet)	Depth (feet)
Driller's log of well 51		
Louis Deckert, owner.		
Red clay- - - -	18	18
Sand- - - - -	6	24
Yellow clay - - -	8	32
White sand, water -	6	38
Yellow clay - - -	10	48
Sand and pebbles- -	4	52
Driller's log of well 52		
S. C. Trushel, owner.		
Clay and sand - -	100	100
Shale and sand - -	70	170
Mixed clay- - - -	15	185
Hard sand and limestone - - -	55	240
Sand and gravel - -	121	361
Shale and sand - -	39	400
Broken shale and limestone- - -	65	465
Sand and shale - -	75	540
Sandy shale and limestone- - - -	73	613
Sand and gravel - -	17	630
Shale- - - - -	15	645
Sand and gravel - -	95	760
Shale and sand streaks- - - -	20	780
Shale, streaks of limestone, sandy -	70	850
Sand- - - - -	40	890
Sticky shale- - -	45	935
Sand shale and boulders - - -	85	1020
Hard red shale - -	30	1050
Sand and shale - -	25	1075
Hard mixed shale- -	40	1115
Sand, shale, and limestone - - -	330	1445
Shale, limestone, shell, hard streak-	65	1510
(Incomplete log, total depth 5561.)		
Casing set at 855 feet.		

	Thickness (feet)	Depth (feet)
Driller's log of well 54		
B. Browning, owner		
Mixed clay - - -	17	17
Water at 37 feet -		
White quicksand - -	37	54
Yellow clay - - -	1	55
White quicksand, small gravel - -	21	76
Hard orange clay, set casing- - -	1	77
Sand and gravel, just heaped - -	½	77½
Driller's log of well 62		
E. A. Beard, owner.		
Black sandy clay - -	6	6
Yellow clay, sandy -	4	10
Coarse yellow sand -	3	13
Yellow joint clay -	7	20
Yellow sand, water -	4	24
Nearly white clay -	11	35
Yellow sand, water -	4	39
Clay and sand - -	26	65
Sand, water - - -	4	69
Gray clay - - -	11	80
Yellow sand, water -	2	82
Driller's log of well 67		
E. I. Moses, owner.		
Sandy soil - - - -	2	2
Red clay - - - -	14	16
Red sand - - - -	14	30
Red clay - - - -	16	46
Rock - - - - -	1	47
Sand - - - - -	8	55
Rock - - - - -	1	56
Sand and red clay in alternate layers-	64	120
Sand - - - - -	20	140
Rock - - - - -	1	141
Sand - - - - -	82	223
Red clay, sand - -	26	249
Rock - - - - -	10	259
Clay and rock- - -	10	269
Red clay - - - -	1	270
Sand - - - - -	15	285
Rock - - - - -	1	286
Red clay - - - -	1	287
Sand - - - - -	2	289

(Continued on next page.)

Table of Drillers' Logs, Jackson County --continued

	Thickness (feet)	Depth (feet)
Driller's log of well 67 --continue		
Rock- - - - -	7	290
Sand- - - - -	21	311
Rock- - - - -	24	335
White clay - - -	4	339
Sand - - - -	22	361
Rock - - - -	26	387
Sand - - - -	21	408
Rock - - - -	3	411
Sand - - - -	3	414
Rock - - - -	10	424
Sand - - - -	41	465
Rock - - - -	4	469
Sand - - - -	10	479
Rock - - - -	2	481
Sand - - - -	17	498
Rock - - - -	12	510
Sand - - - -	11	521
Rock - - - -	4	525
Sand - - - -	20	545
Red clay - - -	3	548
Sand - - - -	10	558
Red clay - - -	8	566
Sand - - - -	20	586
Rock - - - -	10	596
Sand - - - -	44	640
Blue clay - - -	10	650
Sand and clay in alternate layers - - -	15	665
Rock - - - -	4	669
Sand - - - -	6	675
Rock - - - -	1	676
Sand and clay in alternate layers - - -	19	695
Rock - - - -	3	698
Sand - - - -	73	771
Blue clay - - -	6	777
Red sand - - -	22	799
Red clay - - -	53	852
Clay, red, blue- -	58	910
Red clay - - -	40	950
White clay - - -	45	995
Blue clay - - -	5	1000
Sand - - - -	7	1007
Red clay - - -	2	1009
Water sand - - -	13	1022
White clay - - -	16	1038
Sand- - - - -	22	1060
Clay - - - -	47	1107
Soft mud - - -	5	1112
Red clay - - -	28	1140
Rock- - - - -	4	1144

	Thickness (feet)	Depth (feet)
Driller's log of well 67 --continued		
Clay- - - - -	11	1155
Rock- - - - -	1	1156
Red clay- - - -	44	1200
Soft mud- - - -	38	1238
Rock- - - -	7	1245
Soft mud- - - -	25	1270
Clay- - - - -	60	1330
Good water sand - -	40	1370
Driller's log of well 73		
Houston Pipe Line Co., owner.		
Soil- - - - -	12	12
Gray sand, clay - -	52	64
Coarse sand - - -	53	117
Loose shale - - -	20	137
Coarse sand - - -	55	192
Sand- - - - -	130	322
Driller's log of well 74		
J. H. Tucker, owner.		
Clay and soil - -	39½	39½
Sand- - - - -	5	44½
Clay- - - - -	6	50½
Water sand - - -	6	56½
Clay- - - - -	58½	115
Water sand - - -	10	125
Clay- - - - -	4¼	129¼
Water sand - - -	12	141¼
Clay- - - - -	42¼	183½
Water sand - - -	20	203½
Rock- - - - -	1	204½
Water sand - - -	8	212½
Clay- - - - -	2	214½
Water sand - - -	11	225½
Clay- - - - -	4	229½
Water sand - - -	14	243½
Clay- - - - -	38½	282
Rock- - - - -	2	284
Water sand and gravel- - - -	27	311
Clay- - - - -	17	328
Water sand and gravel- - - -	37	365

Table of Driller's Logs, Jackson County --continued

Driller's log of well 76

Southern Pacific Railway Co., owner.

	Thickness (feet)	Depth (feet)
Yellow clay	40	40
Sand	13	53
Yellow clay	40	93
Sand	3	96
Blue clay	40	136
Hard blue clay	3	139
Blue clay	6	145
Sand	2	147
Blue clay	128	275
Hard soapstone	16	291
Light blue sandy clay	60	351
Sand, with 2" hard layer of soapstone	2	353
Hard and soft blue clay	69	422
Cobblestones	2	424
Fine sand	8	432
Coarse sand	12	444

Driller's log of well 77

City of Edna, Texas, owner.

	Thickness (feet)	Depth (feet)
Soil	3	3
Sandy clay	37	40
Clay	14	54
Sand	12	66
Clay	65	131
Shale with sand	41	172
Sand	5	177
Clay with sand	21	198
Sand	8	206
Shale	17	223
Sand and gravel	24	247
Shale	14	261
Sand	44	305
Rock	2	307
Sand	37	344
Shale	5	349
Sand	12	361
Shale	7	368
Sand	44	412
Rock	1	413
Shale	3	416

Driller's log of well 84

Houston Gulf Gas Co., owner.

	Thickness (feet)	Depth (feet)
Clay	12	12
Sand and clay	46	58
Fine sand	8	66
Clay	15	81
Shale	34	115
Coarse sand	54	169
Sandy clay	24	193
Clay	49	242
Sand	26	268
Clay	2	270

Driller's log of well 183

I. N. Mitchell, owner.

	Thickness (feet)	Depth (feet)
Soil	6	6
Quicksand	3	9
Clay	21	30
Water sand	3	33
Clay	47	80
Sand	8	88
Red and blue clay	292	380
Soft lime	1	381
Red and blue clay	37	418
Few hard rocks	1	419
Clay	15	434
Sand, flow	10	444

Driller's log of well 184

Mrs. C. Mitchell, owner.

	Thickness (feet)	Depth (feet)
Soil	3	3
Clay	32	35
Sand, water	2	37
Clay	43	80
Sand, water	4	84
Red and blue clay	141	225
Fine sand	10	235
Clay	125	360
Fine sand, weak flow	6	366
Clay	28	394
Sand, flow	10	404

Table of Drillers' Logs, Jackson County --continued

	Thickness (feet)	Depth (feet)
Driller's log of well 189		
L. D. Flowers, owner.		
Red and blue clay -	60	60
Water sand, flow- -	6	66
Red clay- - - -	134	200
Gray clay - - -	10	210
Red and blue clay -	135	345
Coarse sand - - -	18	363
Driller's log of well 190		
L. D. Flowers, owner.		
Red and blue clay -	60	60
Medium fine gray water sand, flow -	6	66
Blue clay, some gray and red - - -	144	210
Fine gray sand - -	15	225
Gray shale - - -	40	265
Blue shale - - -	50	315
Orange sand - - -	15	330
Tough blue clay, "oyster" shells- -	15	345
Red clay- - - -	80	425
Gray sand - - -	15	440
Water rose 9 feet above ground when drilled in 1917.		
Driller's log of well 193		
Henry C. Coates, owner.		
Red and blue clay -	80	80
Orange sand - - -	15	95
Red and blue clay -	250	345
Tough blue clay - -	5	350
Sand- - - - -	10	360
Water rose 4 feet above ground. Flow 6 gallons a minute when drilled in 1913.		
Driller's log of well 194		
Mrs. C. A. Mitchell, owner.		
Red clay- - - -	80	80
Yellow sand - - -	20	100
Red and blue clay -	110	210
Sharp sand - - -	15	225
Red and blue clay -	130	355
Gray sand- - - -	20	375
Blue clay - - -	50	425
Gray sand - - -	15	440
Water rose 4 feet above ground when drilled in 1915.		

	Thickness (feet)	Depth (feet)
Driller's log of well 195		
Mrs. Josephine Brooking, owner.		
Red and blue clay- -	70	70
Orange sand - - -	10	80
Red and blue clay- -	250	330
Coarse sand - - -	5	335
Water rose 5 feet above ground when drilled.		
Driller's log of well 196		
W. L. Traylor, owner.		
Red and blue clay - -	60	60
Fine orange sand - -	15	75
Red and blue clay - -	125	200
Fine gray sand- - -	5	205
Blue clay thin shells -	125	330
Coarse gray sand - -	15	345
Driller's log of well 200		
J. F. Weed, owner.		
Red and blue clay- -	70	70
Fine gray sand- - -	15	85
Red and blue clay- -	265	350
Coarse gray sand - -	10	360
Mixed clay and caliche pebbles- -	40	400
Very tough gray clay - - - -	30	430
Gray sand- - - -	18	448
Water rose 4 feet above ground. Flowed 10 gallons a minute when drilled.		
Driller's log of well 228		
W. A. Utzman, owner.		
Soil and clay- - -	55	55
Fine sand- - - -	4	59
Tough clay - - -	57	116
Fine sand- - - -	15	131
Clay and shale - -	45	176
Sand and rock- - -	2	178
Clay and hard pan- -	64	242
Fine sand- - - -	8	250
Tough clay - - -	35	285
Fine sand- - - -	33	318
Clay and gravel - -	62	380
Sand and rock- - -	12	392
Soft clay- - - -	4	396
Fine sand- - - -	32	428

Table of Drillers' Logs, Jackson County, Texas

Well 233

Missouri Pacific Ry., owner. At Vanderbilt.

	Thickness (feet)	Depth (feet)
Soil	5	5
Clay	65	70
Sand	20	90
Red clay	35	125
Blue clay	115	240
Rock	3	243
Sand	12	255
White clay	33	288
Sand	22	310
Blue clay	25	335
Rock	1	336
Sand	19	355
Clay	28	383
Rock	9	392
Sand	49	441
Clay	10	451
Sand	45	496
Clay	4	500
Sand	47	547
Clay	6	553
Sand	53	606
Clay	60	666
Red clay	105	771
Rock	1	772
Sand	7	779
Rock	1	780
Clay	10	790
Sand	10	800
Shale	10	810
Rock	1	811
Shale	18	829
Sand	6	835
Shale	8	843
Sand	21	864
Shale	5	869
Fine-grained sand	45	914
Red shale	55	969
Sand	10	979
Red shale	95	1074
Blue shale	20	1094
Water sand	30	1124

Well 301

O. B. Fenner test hole. 7½ miles northeast of Morales.

	Thickness (feet)	Depth (feet)
Sandy clay	45	45
Sand	16	61
Clay	16	77
Sand	10	87
Rocky clay	4	91
Sand	6	97
Chalk and sand	64	161
Sand	16	177
Rocky clay	64	241
Sand	10	251
Rocky clay	4	255
Sand	9	264
Clay	10	274

Well 302

L. Miller test hole. 9 miles northeast of Morales.

	Thickness (feet)	Depth (feet)
Clay	27	27
Sand	8	35
Clay	10	45
Sand	7	52
Clay	27	79
Sand	29	108
Rock	2	110
Chalk and sand	22	132
Clay	16	148
Sand	6	154
Caliche	10	164
Sand	8	172
Rock	5	177
Gumbo	76	253
Sand	23	276
Gumbo	14	290
Sand	22	312
Gumbo	11	323
Sand and shale	55	378

Well 303

I. Wendle test hole. 9 miles northeast of Morales.

	Thickness (feet)	Depth (feet)
Clay	16	16
Sand	39	55
Clay	26	81
Sand	36	117
Clay	10	127
Sand	4	131
Chalk and sand	55	186
Clay	12	198

(Continued on next page)

Table of Drillers' Logs, Jackson County--Continued

	Thickness (feet)	Depth (feet)
Well 303--Continued		
Caliche rock	16	214
Caliche and sand	12	226
Rocky clay	10	236
Sand	24	260
Clay	4	264
Hard rock	1	265
Chalk	11	276
Clay	6	282
Dry sand	42	324
Clay	18	342
Sand	7	349
Clay	17	366
Gumbo	21	387
Sand, clay	22	409
Gumbo	34	443
Sand	61	504

Well 304

O. B. Fenner, owner, 6 miles northeast of Morales.

Clay	16	16
Sand	30	46
Clay	18	64
Rocky sand	37	101
Rock	2	103
Chalk and sand	17	120
Sand	24	144
Hard red clay	12	156
Sand	11	167
Soft rock	4	171
Clay	4	175
Sand	42	217

Well 305

O. B. Fenner, owner. 5½ miles northeast of Morales.

Soil and clay	30	30
Sand	6	36
Clay	7	43
Sand	31	74
Clay	7	81
Sand	18	99
Clay	6	105
Sand	13	118
Clay	15	133
Sand	10	143
Clay	12	155
Sand	4	159
Clay	3	162
Rock	4	166
Sand	43	209
Gumbo	19	228
Lime, shale	10	238
Sand	10	248
Shale	39	287
Gumbo	15	302

Well 310, Partial Log

S. G. Trushel, owner. 6 miles southwest of Morales.

Soil and clay	19	19
Sand	18	37
Clay	37	74
Sand	25	99
Blue shale	6	105
Shale, gumbo, rocks (lost returns)	22	127
Rock	1	128
Sand	33	161
Rocky clay	11	172
Hard shale	20	192
Sand	14	206
Lime, shale	14	220
Sand	16	236
TOTAL DEPTH		240

Well 311

Magnolia Petroleum Co., owner; S. G. Trushel lease. 8½ miles north of Edna.

Clay	8	8
Hard caliche	27	35
Shale	7	42
Sand	16	58
Shale and caliche	14	72
Sand and boulders	29	101
Shale	3	104

Table of Drillers' Logs, Jackson County -- Continued

	Thickness (feet)	Depth (feet)
Well 312		
Humble Oil and Refining Co. No. 1 on P. F. Kubecka lease. 9 miles north of Edna.		
Soil and clay	23	23
Sand	18	41
Shale	34	75
Sand	5	80
Shale	15	95
Sand	20	115
Shale	35	150
Sand	22	172
Shale	1	173
Well 313		
G. A. Harrison, owner. 4 miles northeast of Edna.		
Soil and clay	17	17
Sand	6	23
Clay	62	85
Sand	5	90
Clay	10	100
Sand	20	120
Clay	14	134
Sand and rocks	24	158
Clay	29	187
Lime, shale and sand	22	209
Lime and shale	5	214
Rocky sand	28	232
Clay	10	242
Sand	10	252
Clay	16	268
Sand	16	284
Lime and gumbo	6	290
Sand	8	298
Lime and shale	24	322
Lime, shale and sand	26	348
Rock	3	351
Lime and gumbo	35	386
Sand	20	406
Gumbo	22	428
Sand	15	443
Shale	19	462
Sand	44	506
Well 326		
City of Ganado. At Ganado.		
Surface soil and clay	19	19
Sand	33	52
Clay	10	62
Sand	12	74
Gumbo	50	124
Sand and gravel	76	200
Gumbo	24	224
Sand and gravel	32	256
Gumbo	11	267
Well 327		
The Texas Co. No. 1 on Niebuhr lease. 3¾ miles southeast of Ganado.		
Clay	50	50
Sand	161	211
Shale	12	223
Coarse-grained sand	71	294
Well 328		
Humble Oil and Refining Co. No. 5 on Maggie Branch lease. 4¾ miles southeast of Ganado.		
Surface material	25	25
Sand	67	92
Shale	15	107
Sand	12	119
Sandy shale	13	132
Sand	25	157
Well 329		
Humble Oil and Refining Co. No. 4 on Maggie Branch lease. 4¾ miles southeast of Ganado.		
Surface material	25	25
Shale	25	50
Sand	15	65
Shale	6	71
Sand	15	86
Shale	24	110
Sand	25	135
Well 330		
Humble Oil and Refining Co. No. 6, on Maggie Branch lease. 5 miles southeast of Ganado.		
Surface soil and clay	68	68
Sand	17	85

(Continued on next page)

Table of Drillers' Logs, Jackson County--Continued

	Thickness (feet)	Depth (feet)
Well 330--Continued		
Shale	27	112
Sand	33	145
Well 331		
Humble Oil and Refining Co. No. 3 on Maggie Branch lease, 5 miles southeast of Ganado.		
Surface material	24	24
Sand	43	67
Sandy shale	43	110
Shale	10	120
Sand	27	147
Shale	5	152
Sand	24	176
Well 332		
Humble Oil and Refining Co. No. 2 on Maggie Branch lease, 5 miles southeast of Ganado.		
Surface material	24	24
Sand and shale	22	46
Sand	22	68
Sand and shale	20	88
Sand	22	110
Sand and shale	22	132
Sand	48	180
Well 333		
Humble Oil and Refining Co. No. 1 on Maggie Branch lease, 5½ miles southeast of Ganado.		
Surface material	25	25
Clay	15	40
Sandy shale	7	47
Sand and gravel	34	81
Shale	22	103
Sand	11	114
Shale	3	117
Sand	7	124
Shale	13	137
Sand	33	170

	Thickness (feet)	Depth (feet)
Well 334		
The Texas Co. No. 1 on F. V. Tunison lease, 5½ miles southeast of Ganado.		
Surface soil and clay	18	18
Sand	19	37
Shale	4	41
Water sand and gravel	48	89
Shale	5	94
Water sand and gravel	20	114
Shale	6	120
Water sand and gravel	60	180
Shale	10	190
Water sand and gravel	30	220
Shale	6	226
Water sand and gravel	20	246
Shale	4	250
Water sand and gravel	28	278
Shale	5	283
Water sand and gravel	33	316
Well 335		
The Texas Co. No. 1 on Hanna Ross lease, 5½ miles southeast of Ganado.		
Surface material	22	22
Sand	12	34
Shale	37	71
Sand	12	83
Shale	14	97
Sand	15	112
Shale	15	127
Sand	22	149
Shale	4	153
Sand	36	189
Hard sandstone	4	193
Shale and boulders	9	202
Sand	11	213
Shale and boulders	14	227
Sand	16	243
Shale and boulders	6	249
Sand	23	272
Shale	6	278
Water gravel	33	311
Shale	1	312

Table of Drillers' Logs, Jackson County--Continued

	Thickness (feet)	Depth (feet)
Well 338		
Harry Wyer, owner. 8½ miles southeast of Ganado.		
Soil and clay	30	30
Sand	20	50
Rock	1	51
Sand	32	83
Clay	12	95
Gravel	8	103
Clay	76	179
Sand and gravel	44	223
Clay	19	242
Sand	29	271
Clay	18	289
Sand	36	325
Lime, clay	40	365
Fine-grained sand	130	495
Well 339		
Humble Oil and Refining Co. No. 1 on A. A. Egg lease. 8 miles southeast of Ganado.		
Surface material	25	25
Sand	16	41
Shale	14	55
Sand and gravel	29	84
Sand and shale	46	130
Sand	8	138
Shale	30	188
Sand	10	198
Shale	20	218
Sand	3	221
Shale	29	250
Sand	5	255
Shale	34	289
Sand	36	325
Well 340		
Humble Oil and Refining Co. No. 1 on Mauritz "B" lease. 8½ miles southeast of Ganado.		
Surface material	25	25
Clay	45	70
Sand and gravel	53	123
Shale	47	170
Sand	20	190
Well 340--Continued		
Shale	121	311
Sand and shale	12	323
Shale	48	371
Sand	9	380
Shale	11	391
Sand	25	416
Well 341		
Humble Oil and Refining Co. No. 1 on F. S. Robbins lease. 9 miles southeast of Ganado.		
Surface material	24	24
Shale	43	67
Sand	21	88
Shale	87	175
Sand	42	217
Shale	120	337
Sand	21	358
Shale	34	392
Sand	20	412
Shale	6	418
Sand	15	433
Well 342		
Magnolia Petroleum Co. No. 1 on W. F. Vordick lease. 9½ miles southeast of Ganado.		
Surface material	25	25
Sand	22	47
Shale	13	60
Sand	10	70
Sand and shale	21	91
Shale	99	190
Sand	10	200
Shale	63	263
Sand	30	293
Well 345		
Mauritz Bros., owner. 13 miles southeast of Ganado.		
Surface soil	8	8

(Continued on next page)

Table of Drillers' Logs, Jackson County--Continued

	Thickness (feet)	Depth (feet)
Well 345--Continued		
Sand	18	26
Lime and shale	16	42
Sticky shale	25	67
Sandy shale	15	82
Sand	18	100
Shale	57	157
Sandy shale	18	175
Sand and gravel	48	223
Shale	37	260
Shale and lime	27	287
Sand	28	315
Sandy shale	30	345
Sand and gravel	50	395
Shale	67	462
Sticky shale	25	487
Sand and boulders	33	520
Sticky shale	7	527
Rock	3	530
Sandy shale	45	575
Sand and gravel	35	610
Sand, shale, lime	39	649
Hard shale with streaks of sand	37	686
Sticky shale	5	691
Gumbo	21	712
Sand and gravel	13	725
Sticky shale	57	782
Sand	15	797

Well 347, partial log

Mauritz Bros., owner. 13 miles southeast of Ganado.

Soil and clay	8	8
Sand	10	18
Clay	27	45
Sand	10	55
Clay	21	76
Sand	19	95
Clay	36	131
Sand	12	143
Clay	20	163
Sand	83	246
Clay	15	261
Lime, gumbo	30	291
Sand	22	313
Gumbo	22	335
Sand	25	360
Gumbo	5	365
Sand	13	378
Gumbo	6	384
Sand	12	396
TOTAL DEPTH		401

Well 348

Mauritz Bros. test hole. 14 miles southeast of Ganado.

Soil	4	4
Sand	6	10
Clay	55	65
Sand	37	102
Clay	38	140
Sand	10	150
Clay	20	170
Sand	18	188
Clay	12	200
Sand	4	204
Clay	6	210
Lime rock	10	220
Shale	12	232
Lime, gumbo	10	242
Sandy shale	20	262
Lime, shale	51	313
Lime, gumbo	60	373
Sand	35	408
Gumbo	66	474
Sand	14	488
Lime	6	494

Well 349

Mauritz Bros., owner. 3½ miles north of Francitos.

Clay	9	9
Sand	11	20
Clay	28	48
Sand	8	56
Clay	9	65
Sand	48	113
Clay	32	145
Sand	15	160
Gumbo	26	186
Sand	18	204
Gumbo	10	214
Sand	10	224
Gumbo	8	232
Sand	36	268

(Continued on next page)

Table of Drillers' Logs, Jackson County--Continued

	Thickness (feet)	Depth (feet)
Well 349--Continued		
Gumbo	13	281
Gravel	22	303
Gumbo	34	337
Sand	18	355
Gumbo	6	361
Sand	17	378
Gumbo	20	398
Sand	23	421
Well 352		
Meuritz Bros., owner. 1 mile southwest of Francitas.		
Surface soil	5	5
Clay	7	12
Fine-grained sand	10	22
Sticky shale	33	55
Sandy shale	10	65
Crumbly shale	115	180
Sand	19	199
Well 353		
Meuritz Bros., owner. 3¼ miles southwest of Francitas.		
Surface soil	5	5
Clay	15	20
Sand	12	32
Clay	68	100
Sand	12	112
Shale	13	125
Gumbo	118	243
Shale	20	263
Sandy shale	5	268
Sand	14	282
Shale and boulders	28	310
Sand and gravel	25	335
Sticky shale	51	386
Soft shale and sand	23	409
Sand	22	431
Sticky shale	43	474
Boulders	1	475
Sticky shale	62	537
Sand and boulders	18	555
Sticky shale	8	563
Gumbo and lime	27	590
Not reported	37	627
Sand and gravel	33	660
Well 353--Continued		
Sticky shale	40	700
Shale and boulders	10	710
Sand and gravel	25	735
Well 354		
Francitas Gas Co. No. 1, owner. 4 miles south of Francitas.		
Surface clay	51	51
Sandy shale	6	57
Shale	26	83
Sand	15	98
Sticky shale	57	155
Sand	21	176
Sticky shale	80	256
Sand	22	278
Sticky shale	35	313
Sand	21	334
Shale	9	343
Sand	41	384
Shale	2	386
Well 355		
Francitas Gas Co. No. 2, owner. 4 miles south of Francitas.		
Clay	73	73
Sandy shale	5	78
Soft sand	23	101
Sticky shale	50	151
Sand	10	161
Shale	42	203
Sticky shale	47	250
Sand	24	274
Sticky shale	25	299
Sand and gravel	30	329
Shale	5	334
Sand	46	380
Shale	2	[illegible]
Well 356		
Francitas Gas Co. No. 3, owner. 4 miles south of Francitas.		
Clay	62	62

(Continued on next page)

Table of Drillers' Logs, Jackson County--Continued

	Thickness (feet)	Depth (feet)
Well 356--Continued		
Sand	24	86
Shale	78	164
Sand	7	171
Sticky shale	116	287
Sand	39	326
Shale	25	351
Sand	24	375
Shale	2	377
Well 358		
Magnolia Petroleum Co. No. 1 on W. C. Moody lease. 6 miles northwest of La Ward.		
Surface material	25	25
Shale	23	48
Sand	27	75
Shale	33	108
Sand	5	113
Shale	83	196
Sand	8	204
Shale	79	283
Sand	19	302
Well 359		
Magnolia Petroleum Co. No. 3 on Gordon Estate lease. 5 miles northwest of La Ward.		
Surface material	25	25
Clay	13	38
Sand	13	51
Shale	18	69
Sand	45	114
Well 360		
Magnolia Petroleum Co. No. 5 on Gordon Estate lease. 5 miles northwest of La Ward.		
Surface material	25	25
Clay	15	40
Sand	10	50
Shale	28	78
Sand	38	116
Shale	14	130
Sand	14	144
Shale	56	200
Sand	17	217
Shale	10	227
Sand	19	246
Shale	19	265
Sand	5	270
Shale	4	274
Sand	11	285
Shale	15	300
Sand	29	329
Well 361		
Humble Oil and Refining Co. No. 1 on Four-Way Ranch lease. 4½ miles northwest of La Ward.		
Surface material	25	25
Clay	17	42
Sand	11	53
Shale	28	81
Sand	26	107
Shale	23	130
Well 362		
Humble Oil and Refining Co. No. 6 on Four-Way Ranch lease. 4 miles northwest of La Ward.		
Surface material	25	25
Clay	7	32
Sand	9	41
Shale	33	74
Sand	35	109
Well 363		
Humble Oil and Refining Co. No. 1 on Louise Bennet lease. 4¾ miles north of La Ward.		
Surface material	24	24
Shale	45	69
Sand	66	135
Shale	195	330
Sand	22	352

(Continued on next page)

Table of Drillers' Logs, Jackson County--Continued

	Thickness (feet)	Depth (feet)
Well 363--Continued		
Shale	42	394
Sand	32	426
Well 364		
Humble Oil and Refining Co. No. 2 on Alberta Gayle lease. 4½ miles north of La Ward.		
Surface material	25	25
Clay	10	35
Sand	9	44
Shale	23	67
Sand	14	81
Shale	22	103
Sand	8	111
Sandy shale	19	130
Shale	78	208
Sand	10	218
Shale	12	230
Well 365		
Magnolia Petroleum Co. No. 1 on Four-Way Ranch. 3 miles west of La Ward		
Surface material	25	25
Clay	8	33
Sand	17	50
Shale	11	61
Sand	30	91
Shale	38	129
Sand	13	142
Shale	44	186
Sand	12	199
Shale	8	207
Sandy shale	19	226
Shale	31	257
Sand	7	264
Shale	7	271
Sand	14	285
Shale	13	298
Sand	34	232
Shale	26	358
Sand	19	377
Shale	8	385
Sand	30	415

	Thickness (feet)	Depth (feet)
Well 366		
Magnolia Petroleum Co. No. 2 on Four-Way Ranch lease. 3 miles west of La Ward.		
Surface material	25	25
Clay	8	33
Sand	17	50
Shale	11	61
Sand	30	91
Shale	33	124
Sand	19	143
Shale	61	204
Sandy shale	24	228
Shale	37	265
Sand	22	287
Shale	3	290
Sandy shale	12	302
Sand	11	313
Sandy shale	5	318
Sand	16	334
Sandy shale	8	342
Shale	20	362
Sand	20	382
Shale	5	387
Sand	28	415
Shale	45	460
Sand	11	471
Shale	2	473
Sand (salty water)	21	494
Sandy shale	16	510
Well 367		
Magnolia Petroleum Co. No. 3 on Four-Way Ranch lease. 3 miles west of La Ward.		
Surface material	25	25
Clay	8	33
Sand	18	51
Shale	10	61
Sand	30	91
Shale	33	124
Sand	19	143
Shale	61	204
Sandy shale	24	228
Shale	35	263
Sand	20	283

Table of Drillers' Logs, Jackson County--Continued

	Thickness (feet)	Depth (feet)
Well 368		
Humble Oil and Refining Co. No. 1 on "L" Ranch "B" lease. 7 miles west of La Ward.		
Surface material	25	25
Clay	30	55
Sand	9	64
Shale	6	70
Sand	20	90
Shale	32	122
Sand	25	147
Shale	10	157
Sand	20	177
Shale	74	251
Sand	21	272
Well 369, partial log		
"L" Ranch Co., owner. 2¼ miles west of La Ward.		
Soil and clay	23	23
Sand	6	29
Clay	5	34
Fine-grained sand	9	43
Clay	21	64
Fine-grained sand	30	94
Clay	12	106
Sand	12	118
Clay	27	145
Sand	10	155
Clay	19	174
Sand	18	192
Gumbo	36	228
Sand	8	236
Gumbo	20	256
Sand	5	261
Rock	1	262
Lime, shale, sand	17	279
Rock	1	280
Sand	61	341
Shale	4	345
Sand	97	442
TOTAL DEPTH		445
Well 370		
Magnolia Petroleum Co. No. 1 on Mary Mitchell lease. 5 miles west of La Ward.		
Surface material	23	23
Clay	12	35
Sand	6	41
Shale	24	65
Sand	14	79
Shale	20	99
Sand	3	102
Shale	32	134
Sand and shale	25	159
Sand	7	166
Shale	14	180
Well 375		
Humble Oil and Refining Co. No. 1 on M. H. Toney lease. 1½ miles southeast of Vanderbilt		
Not recorded	20	20
Sand	46	66
Shale	21	87
Sand	22	109
Shale	211	320
Sand	30	350
Shale	43	393
Sand	110	503
Shale	10	513
Sand	118	631
Shale	67	698
Sand	15	713
Shale	29	742
Sand	22	764
Shale	22	786
Sand	22	808
Shale	43	851
Sand	45	896
Shale	274	1170
Sand	37	1207
Shale	1	1208
Well 376		
Magnolia Petroleum Co. No. 4 on West Ranch "A" lease. 2 miles south of Vanderbilt.		
Clay	20	20
Sand	10	30
Shale	30	60
Sand	40	100
Shale	117	217

(Continued on next page)

Table of Drillers' Logs, Jackson County--Continued

	Thickness (feet)	Depth (feet)
Well 378--Continued		
Sand	42	260
Shale	234	494
Sand	76	570
Shale	83	653
Sand	78	731
Shale	193	924
Sand	38	962
Shale	35	997
Sand	23	1020
Shale	45	1065
Sand	22	1087
Shale	196	1183
Sand	49	1232

Well 378

Magnolia Petroleum Co. No. 5 on West Ranch "A" lease, 4 miles southeast of Vanderbilt.

Surface material	57	57
Sand	93	150
Shale	40	190
Sandy shale	75	265
Gumbo	63	328
Sand	6	334
Shale	72	406
Shale and boulders	49	455
Sand	95	550
Shale	46	596
Sand	21	617
Gumbo	18	635
Sand	87	722
Sandy shale	10	732
Shale and boulders	48	780
Shale	20	800
Sandy shale	16	816
Blue gumbo	19	835
Sand	13	848
Gumbo	13	861
Sand and boulders	19	880
Gumbo	26	906
Sand	23	929
Gumbo	6	935
Sand	27	962
Gumbo	68	1030
Greenish sand	31	1061
Tough gumbo	94	1155
Tight sand	10	1165
Tough gumbo	9	1174
Sand and gravel	51	1225
Gumbo	8	1233

Well 379

Magnolia Petroleum Co. No. 1 on West Ranch "A" lease, 5 miles south of Vanderbilt.

Muck	28	28
Sand	16	44
Sandy shale and shells	201	245
Hard shale	70	315
Sand rock	4	319
Sandy shale	21	340
Sand	17	357
Sandy shale and boulders	18	375
Sticky shale	57	432
Sand and shale	24	456
Hard rock	5	461
Sticky shale	9	470
Sandy shale	16	486
Sand and broken shale	29	515
Sand	28	543
Sticky shale	24	567
Sand	22	589

Well 380

Magnolia Petroleum Co. No. 5 on West Ranch "A" lease, 3¾ miles southwest of Vanderbilt.

Clay	46	46
Sand	21	67
Shale	7	74
Sand	38	112
Shale	23	135
Sand	15	150
Shale	94	244
Sand	21	265
Shale	156	421
Sand	66	487
Shale	33	520
Sand	12	532
Shale	21	553
Sand	42	595
Shale	22	617
Sand	22	639
Shale	110	749

(Continued on next page)

Table of Drillers' Logs, Jackson County--Continued

	Thickness (feet)	Depth (feet)
Well 380--Continued		
Sand	22	771
Shale	44	815
Sand	20	835
Shale	38	873
Sand	51	924
Shale	23	947
Sand	23	970
Shale	98	1068
Sand	34	1102
Shale	69	1171
Sand	49	1220
Well 381		
Magnolia Petroleum Co. No. 6 on West Bench "A" lease. 3¾ miles southwest of Vanderbilt.		
Clay	68	68
Sand	15	83
Shale	13	96
Sand	26	122
Shale	35	157
Sand	30	187
Shale	35	222
Sand	32	254
Shale	11	265
Sand	15	280
Shale	9	289
Sand	18	307
Shale	95	402
Sand	16	418
Shale	3	421
Sand	20	441
Shale	32	473
Sand	10	483
Shale	17	500
Sand	42	542
Shale	10	552
Well 381--Continued		
Sand	12	564
Shale	68	632
Sand	21	653
Shale	56	709
Sand	9	718
Shale	10	728
Sand	12	740
Shale	88	828
Sand	61	889
Shale	14	903
Sand	14	917
Shale	43	960
Sand	76	1036
Shale	34	1070
Sand	34	1104
Shale	8	1112
Sand	21	1133
Shale	45	1178
Sand	32	1210
Well 382		
Humble Oil and Refining Co. No. 1 on J. M. Bennett lease. 4 miles west of Vanderbilt.		
Surface material	24	24
Sand and shale	66	90
Shale	44	134
Sand	21	155
Shale	64	219
Sand	11	230
Shale	54	284
Sandy shale	35	319
Shale	55	374
Sand	16	390

Analyses of water from wells in Jackson County, Texas
(Analyzed by Margaret D. Foster. Parts per million. Numbers at heads of columns correspond to numbers in table of well records.)

	1	5	7	73	86	104	123	151	157	181	187	239
Calcium (Ca)	227	181	66	39	11	74	77	60	8.4	17	40	35
Magnesium (Mg)	48	19	8.0	17	6.0	11	20	34	4.4	8.7	23	18
Sodium and Potassium (Na+K) (calculated)	220	112	27	140	243	40	23	108	171	626	1,019	294
Bicarbonate (HCO_3)	339	307	171	358	343	257	350	365	356	487	354	395
Sulphate (SO_4)	85	65	9.4	.8	23	13	5.7	30	23	1.1	1.6	.9
Chloride (Cl)	620	322	75	125	195	65	23	135	65	732	1,499	335
Fluoride (F)	0	0	.6	.2	-	.2	0	1.2	.9	2.4	1.7	1.4
Nitrate (NO_3)	.75	.40	0	0	0	.6	.20	.05	0	1.5	.50	.10
Total dissolved solids (calculated)	1,368	851	270	498	647	330	321	548	448	1,629	2,759	879
Total hardness as $CaCO_3$ (calculated)	764	530	198	167	52	230	274	289	39	78	194	161
Date of collection (1934)	Nov.5	Nov.6	Nov.6	Nov.5	Nov.6	Nov.10	Nov.6	Nov.6	Nov.7	Nov.6	Nov.9	Nov.10

Partial analyses of water from wells in Jackson County, Texas

Analyzed at The University of Texas under the direction of M. W. Hastings, Chemist, U. S. Department of the Interior, Geological Survey, and Dr. E. P. Schoch, Director of the Bureau of Industrial Chemistry. Results are in parts per million. Well numbers correspond to numbers in table of well records.

Well	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na + K) (calc.)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Total hardness as $CaCO_3$ (calc.)
73	Houston Pipe Line Co.	322	Sept. 23, 1942	526	37	15	150	360	2	129	0.1	0	154
a/ 77	City of Edna	416	Oct. 1, 1942	562	25	13	191	370	2	144	0.4	0	116
a/ 84	Houston-Gulf Gas Co.	270	Sept. 24, 1942	523	12	8.3	231	342	2	201	0.3	0	65
a/ 105	A. T. Robinson et al.	280	Sept. 30, 1942	439	30	7.1	84	305	14	104	0.1	0	229
115	R. W. Silliman	83	Dec. 9, 1940	584	83	27	112	458	29	108	0.6	-	316
126	McCrory and Westhoff	330	Sept. 25, 1942	516	48	23	130	451	14	79	0.3	0	214
a/ 308	J. H. Robinson	425	Oct. 1, 1942	469	68	13	101	342	19	100	0.1	0	223
a/ 309	S. G. Drushel	252	do.	543	53	12	161	348	2.9	117	0.3	0	132
311	Magnolia Petroleum Co.	104	Sept. 29, 1942	853	137	25	141	329	179	208	0.5	0	445
a/ 312	Humble Oil and Refining Co.	173	do.	704	113	18	134	299	29	263	0.1	0	356
a/ 313	G. A. Harrison	506	Sept. 1, 1942	597	65	20	133	350	43	141	0.6	0	244
315	Houston Pipe Line Co.	420±	Sept. 23, 1942	591	24	13	202	451	2	128	-	0	114
323	do.	250±	Sept. 30, 1942	481	70	13	103	342	18	109	-	0	228
326	City of Canado	267	May 6, 1940	369	99	15	20	226	15	108	0.2	1.1	309
a/ 326		267	Sept. 30, 1942	412	90	17	31	242	14	105	0.2	1.0	294
330	Humble Oil and Refining Co.	145	Sept. 3, 1942	393	41	19	98	268	19	94	-	0	182
338	Harry Wyer	395	Sept. 25, 1942	421	58	23	78	354	12	76	-	0	239
341	Humble Oil and Refining Co.	433	do.	321	22	17	85	287	13	43	-	0	125
343	Mauritz Bros.	-	Sept. 26, 1942	454	87	25	55	342	16	103	-	0	341
344	Drought Land Co.	350±	Sept. 29, 1942	423	65	28	62	311	13	102	-	0	277

a/ Analyses of water from selected wells are given in milligram equivalents per liter on page 49.

Partial analyses of water from wells in Jackson County--Continued

Results are in parts per million.

Well	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids	Calcium (Ca)	Magnesium (Mg)	Sodium and Potassium (Na + K) (calc.)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Total hardness as $CaCO_3$ (calc.)
a/345	Mauritz Bros.	797	Sept.26, 1942	483	30	14	146	329	14	117	0.1	0	133
a/346	do.	105	do.	1,152	152	55	203	378	122	434	0.3	0	609
350	do.	780	Sept.23, 1942	393	10	5.8	145	317	7	69	-	0	49
351	do.	820	do.	420	6.8	2.2	166	342	8	69	-	0	26
352	do.	199	Sept.29, 1942	426	30	6.8	134	329	18	75	-	0	104
a/353	do.	735	do.	421	10	5.8	155	317	19	74	0.7	0	49
355	Francitas Gas Co. No. 2	382	do.	365	45	11	87	317	21	45	-	0	157
a/356	Francitas Gas Co. No. 3	377	do.	389	29	11	115	342	17	49	0.1	0	117
357	A. V. Raplee	400±	do.	372	17	12	119	317	15	53	-	0	92
360	Magnolia Petroleum Co. No. 5	329	Sept.25, 1942	341	14	8.3	115	299	13	44	-	0	70
a/363	Humble Oil and Refining Co. No.1	426	Sept. 3, 1942	339	33	12	89	311	13	39	0.4	0	132
a/364	Humble Oil and Refining Co. No.2	230	Sept.25, 1942	414	98	30	13	262	12	127	0.3	0	369
368	Humble Oil and Refining Co.No.1	272	Sept. 3, 1942	410	8.4	8.3	148	293	13	88	-	0	55
370	Magnolia Petroleum Co. No. 1	81	Sept.25, 1942	660	48	38	162	458	21	166	0.4	0	279
371	Missouri Pacific Ry. No. 2	1,374	May 2, 1938	982	7	4	390	412	12	314	-	-	35
a/371	do.	1,374	Sept. 4, 1942	1,099	12	5.5	420	498	2	385	2.0	7.6	52
372	Town of Vanderbilt	1,143	Sept.24, 1942	926	9.6	4.6	363	458	3	319	1.5	0	43
373	Charles Breckel	340	--	1,279	18	8.3	482	323	2	610	-	-	30
374	Glasscock Bros.	1,235	Sept. 2, 1942	1,250	12	5.8	486	476	2	510	-	0	54

a/ Analyses of water from selected wells are given in milligram equivalents per liter on page 49.

Partial analyses of water from wells in Jackson County--Continued

Results are in parts per million.

Well	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids	Calcium (Ca)	Magnesium (Mg)	Sodium and Potassium (Na + K) (calc.)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Total hardness as $CaCO_3$ (calc.)
a/375	Humble Oil and Refining Co. No. 1	1,208	Sept. 2, 1942	1,419	20	5.8	543	458	8	615	1.9	-	74
a/376	Magnolia Petroleum Co. No. 4	1,232	Sept. 24, 1942	844	3.2	3.5	326	445	2	264	1.6	0	35
377	Magnolia Petroleum Co. No. 3	1,230	do.	783	7.2	3.4	309	409	2	260	-	0	32
378	Magnolia Petroleum Co. No. 2	1,233	do.	807	9.2	3.4	317	415	2	270	1.6	0	37
381	Magnolia Petroleum Co. No. 6	1,210	Sept. 23, 1942	1,023	12	4.6	398	445	2	385	1.6	0	48

a/ Analyses of water from selected wells are given in milligram equivalents per liter on page 49.

Chemical analyses--Continued

Results are in milligram equivalents per liter

Well	Owner	Depth of well (ft.)	Date of collection	Calcium (Ca)	Magnesium (Mg)	Sodium and Potassium (Na + K) (calc.)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Total hardness as $CaCO_3$ (calc.)
77	City of Edna	416	Oct. 21, 1942	1.25	1.07	7.86	6.06	.04	4.05	.02	0	2.32
84	Houston-Gulf Gas Co.	270	Sept.24, 1942	0.62	0.53	10.05	5.60	0.04	5.67	0.04	0	1.30
105	A.M.Robinson et.al.	280	Sept.30, 1942	4.00	0.58	3.65	5.00	0.29	2.93	0.01	0	4.58
308	J.H.Robinson	425	Oct. 1, 1942	3.38	1.08	4.37	5.60	0.40	2.82	0.01	0	4.46
309	S.G. Brushel	252	do.	2.56	0.98	6.98	5.70	0.5968	3.30	0.02	0	2.64
312	Humble Oil and Refining Co.	173	Sept.29, 1942	5.64	1.48	5.81	4.90	0.5968	7.42	0.01	0	7.12
313	G. A. Harrison	506	Sept. 1, 1942	3.24	1.64	5.77	5.74	.90	3.98	.03	0	4.88
326	City of Ganado	267	Sept.30, 1942	4.49	1.40	1.36	3.97	.29	2.96	.01	.02	5.89
345	Mauritz Bros.	797	Sept.26, 1942	1.48	1.18	6.34	5.40	0.29	3.30	0.01	0	2.66
346	do.	105	do.	7.62	4.56	8.82	6.20	2.5364	12.24	0.02	0	12.18
353	do.	735	Sept.29, 1942	0.50	0.43	6.75	5.20	0.40	2.09	0.04	0	0.98
356	Francitas Gas Co. No. 3	377	do.	1.46	0.83	5.00	5.60	0.35	1.38	0.01	0	2.34
363	Humble Oil and Refining Co.No.1	426	Sept. 3, 1942	1.66	0.98	3.85	5.10	0.27	1.10	0.02	0	2.64
364	Humble Oil and Refining Co.No.2	230	Sept.25, 1942	4.90	2.43	0.77	4.30	0.25	3.58	0.02	0	7.38
371	Missouri Pacific Ry. No. 2	1,374	Sept. 4, 1942	.60	.45	18.24	8.16	.04	10.86	.11	.12	1.05
375	Humble Oil and Refining Co.No.1	1,208	Sept. 2, 1942	1.00	0.48	23.63	7.50	0.17	17.34	0.10	-	1.44
376	Magnolia Petroleum Co. No. 4	1,232	Sept.24, 1942	.41	.29	14.17	6.87	.04	7.45	.08	.00	.70

MAP OF JACKSON COUNTY, TEXAS
SHOWING LOCATION OF WATER WELLS

SCALE
1 0 1 2 3 4 5 MILES

EXPLANATION
- WELL WITH SMALL POWER PUMP (LESS THAN 5 H.P.), WINDMILL, HAND PUMP OR BUCKET
- WELL WITH PUMPING PLANT
- FLOWING WELL
- UNUSED WELL
- WELL DRILLED TO TEST FOR OIL OR GAS

COLORADO COUNTY
LAVACA COUNTY
JACKSON COUNTY
WHARTON COUNTY
VICTORIA COUNTY
CALHOUN COUNTY
MATAGORDA COUNTY
MORALES
CORDELE
NAVIDAD
GANADO
EDNA
HARRISBURG
SAN ANTONIO AND MEXICO
GALVESTON
VANDERBILT
LOLITA
LA WARD
FRANCITAS
BROWNSVILLE AND MEXICO
ST. LOUIS
LAVACA RIVER
NAVIDAD RIVER
Sandy Creek
Brushy Creek
Mustang Creek
Arenosa Creek
Arroyo Venado
REDFISH LAKE
SWAN LAKE
Keller's Creek
West Carancahua Creek
East Carancahua Creek
LAVACA BAY
CARANCAHUA BAY

BASE COMPILED FROM LAND OWNERSHIP MAP AND FROM FIELD NOTES.

U.S. GEOLOGICAL SURVEY
FIELD WORK BY JAMES C. CUMLEY

DRAWN BY R.P. THAYER