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

HARDIN COUNTY, TEXAS

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

DECEMBER 1942

REPRINTED JUNE 1950

HARDIN 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

December 1942.

HARDIN COUNTY, TEXAS

Introduction

By

G. H. Cromack

This publication contains records of 148 wells, drillers' logs of 32 wells, and results of chemical analyses of water from 117 wells in Hardin County, Texas. Most of the records were obtained by the writer from March to May 1942, as a part of a state-wide program of ground-water investigations in Texas by the State Board of Water Engineers in cooperation with the United States Department of the Interior, Geological Survey.

Some of the analyses were made by W. W. Hastings, Assistant Chemist of the Quality of Water Division of the Federal Geological Survey. Most of them were made by chemists employed by the Work Projects Administration under the direction of Dr. E. P. Schoch, Director of the Bureau of Industrial Chemistry of The University of Texas, and Mr. Hastings. The results of all the analyses are tabulated in parts per million and 25 of them are also given in milligram equivalents per liter for the convenience of those who prefer this form of expressing the quality of the water.

The records 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 the county, and the quantity and chemical character of water yielded by the wells.

A limited number of copies of this release 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.

Records of wells in Hardin County, Texas
All wells are drilled unless otherwise stated in Remarks

Well	Distance from Votaw	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
1	3½ miles northwest	J. J. Harrison	J. J. Harrison	1927	31	48	3.0
2	3¾ miles northwest	W. E. Bailey	W. E. Bailey	1929	26	4	1.8
3	2½ miles west	Ed. Moore	Ed. Moore	1938	40	36	3.0
4	In Votaw	Gulf, Colorado & Santa Fe R.R. Co.	--	Old	355	8	--
5	2½ miles south	E. Barneycastle	E. Barneycastle	1942	27	1½	--
6	3½ miles southeast	Houston Oil Co.	--	--	25±	1¼	--
7	6 miles southeast	P. L. Moye	P. L. Moye	1939	26	36	2.5
8	3¾ miles southeast	Loftis Heirs	--	1912	22	36	2.5
9	6½ miles southeast	Mayo and Rein No. 1	Housh, Schofield and Thompson	1937	6,008	9-7/8	--
10	do.	Gulf, Colorado & Santa Fe R.R. Co.	Layne-Texas Co.	1930	868	12,8, 6	2.5
11	7 miles east	Kirby Lumber Co.	Kirby Petroleum Co.	1934	5,648	9-7/8, 6½	--
	Distance from Honey Island						
12	5½ miles northwest	H. H. McMillan	--	1892	27	48	3.0
13	3¾ miles northwest	Jordan Heirs	--	Old	18	36	3.0
14	3 miles west	Sutton Heirs	--	Old	21	36	3.0
15	½ mile northwest	Kirby Lumber Corp No. 3	Frank Balcar	1939	293	8.6	--
16	¼ mile northwest	Kirby Lumber Corp No. 2	do.	1937	127	8	--

a/ Plus (+) indicates water level above measuring point.
b/ Pump or lift: T, turbine; Cf, centrifugal; A, air lift; C, cylinder; B, rope and bucket.
Power: E, electric; G, gas or gasoline enginer; S, steam; W, windmill; H, hand. Figure indicates horsepower.

Chemical analyses of water from most of these wells are shown in a table of analyses on pages 30 to 35

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
1	26.30	Apr. 30, 1942	B,H	D,S	Dug well.
2	17.58	do.	B,H	D,S	
3	40.79	do.	B,H	D,S	Dug well.
4	--	--	--	--	Formerly supplied water for locomotive. Caved and abandoned. Deussen No. 429d/. See log.
5	--	--	C,H	D,S	Screen from 24 to 27 feet.
6	--	--	C,H	D,S	
7	13.92	Apr. 30, 1942	B,H	D,S	Dug well.
8	5.60	do.	B,H	D,S	Do.
9	--	--	--	--	Oil test. Electrical log in files of Texas State Board of Water Engineers, starting at 394 feet, shows sands at 400-425, 775-825, and 875-935 feet; and about 125 feet of sand in 3 beds between 1,075 and 1,250 feet.
10	26.75	Apr. 13, 1942	A,-	RR	Casing: 141 feet of 12-inch; 705 feet of 8-inch with screens from 227 to 249, 354 to 398, 623 to 646, 815 to 837 and 847 to 866 feet. See log.
11	--	--	--	--	Oil test. Electrical log in files of Texas State Board of Water Engineers, starting at 80[illegible] feet, shows about 100 feet of sand between 1,125 and 1,275 feet and several thin beds of sand between 1,375 and 1,700 feet.
12	5.95	Apr. 30, 1942	B,H	D,S	Dug well.
13	7.04	do.	B,H	N	Do.
14	6.73	do.	B,H	D,S	Do.
15	--	--	A,-	Ind	Casing: 102 feet of 8-inch; 171 feet of 6-inch. 20 feet of 6-inch screen. Estimated yield 125 gallons a minute. See log.
16	--	--	A,-	P,Ind	This well and well 17 supply water for sawmill and Town of Honey Island. See log.

c/ P, public supply; Ind, industrial; RR, railroad; Sw, swimming pool; D, domestic; S, stock; N, none.

d/ Number under which well is listed in U. S. Geological Survey Water-Supply Paper 335, Alexander Deussen, 1914.

e/ Water level reported by driller or owner.

Records of wells in Hardin County--Continued

Well	Distance from Honey Island	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
17	¼ mile northwest	Kirby Lumber Corp. No. 1	Frank Balcar	--	116	8	--
18	2½ miles southeast	Mrs. W. J. Bracken	Joe Hardie	1910	1,953	8,6, 4½	10.0
19	do.	Gulf, Colorado & Santa Fe R.R. Co.	--	--	268	--	--
20	1½ miles northeast	A. L. Gore	A. L. Gore	1940	18	48	1.0
21	3½ miles northeast	J. B. Bonham	--	Old	17	42	5.0
22	3 miles northeast	Charley E. Lindsey	Charley E. Lindsey	1941	20±	1¼	--
	Distance from Village Mills						
23	3 miles south	Beckie Holland	--	1925	38	4	2.5
24	4¼ miles southwest	Southwestern Settlement and Development Co.	--	1928	25	48	2.5
25	3 miles west	Pat Smith	Lee Williams	1941	156	2½	2 0
26	½ mile northwest	Kirby Lumber Corp.	--	1880?	400+	4	2.0
27	1 mile southeast	A. C. Richmond	Paul Acheson	1940	67	2	--
28	3¾ miles southeast	Tom McNeely	Tom McNeely	1939	35	42	3.0
29	4½ miles southeast	Olive Sternenberg	Glenn H. McCarthy Inc.	1934	6,524	10	--
30	5½ miles southeast	E. N. Jordan	Frank Balcar	1942	78	2½	0
31	do.	H. J. Halliday	do.	1938	295	6,4	0
32	do.	Sid McNeely	Sid McNeely	1922	27	8	2.5
	Distance from Silsbee						
33	8 miles northwest	Boy Scouts of America	--	--	150±	2	--
34	10 miles northwest	Mrs. Walter Drake	--	Old	19	36	3.0
35	12 miles north	Ada McDonald	Boyd Ward	1941	23	1¼	--
36	12 miles northeast	Kirby Lumber Corp.	Humble Oil Co.	1938	6,065	7	1.0

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
17	--	--	A,-	P,Ind	Pumping level 67 feet. Estimated yield 60 gallons a minute.
18	+	Apr. 6, 1942	Flows	D,S, Sw	Casing: 525 feet of 8-inch; 1,222 feet of 6-inch. 206 feet of 4½-inch screen. Water warm.
19	--	--	--	--	Formerly supplied water for locomotives at Dies; abandoned. Deussen No. 443d/. See log.
20	2.66	Apr. 29, 1942	C,H	D,S	Dug well.
21	6.14	do.	B,H	D,S	Do.
22	--	--	C,H	D,S	
23	6.06	Apr. 29, 1942	B,H	D,S	
24	4.27	do.	B,H	D,S	Dug well.
25	5.38	do.	C,H	N	
26	+	do.	Flows	D,S	Formerly supplied sawmill.
27	--	--	C,E,¼	D,S	
28	20.70	Apr. 29, 1940	B,H	D,S	Dug well.
29	--	--	--	--	Oil test. Plugged and abandoned. See log.
30	e/40	Apr. 10, 1940	C,H	D,S	Screen from 73 to 78 feet. Sand from 66 to 78 feet.
31	e/22	1938	C,G,S	D	Casing: 30 feet of 6-inch; 251 feet of 4-inch. Screen from 281 to 295 feet. See log.
32	7.96	Apr. 29, 1942	B,H	D,S	
33	--	--	C,E	D,S	Supplies Camp Mitigwa.
34	6.72	Apr. 28, 1942	B,H	D,S	Dug well.
35	--	--	C,H	D,S	Screen from 20 to 23 feet.
36	1.15	Mar. 2, 1941	--	--	Oil test. Known as McShane No. 1.

Records of wells in Hardin County -- Continued

Well	Distance from Village Mills	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well	Height of measuring point above ground (ft.)
37	12 miles northeast	Kirby Lumber Corp.	Humble Oil Co.	1938	--	4	7.8
38	11 miles north	Dennis Ard	--	1940	53	24	3.0
39	9 miles north	Tom Eason	--	1920	35	36	3.0
40	7 miles north	American Republic Corp.	Pitre Water Well Drilling Co.	1936	363	7,4	--
41	do.	do.	American Republic Corp.	1941	153	7	0
42	7 miles northeast	Southwestern Settlement and Development Co.	--	1929	20	1¼	--
43	5 miles north	H. W. Raimer	--	1922	42	42	3.0
44	5 miles northwest	Homer Mason	Paul Acheson	1938	154	2	--
45	4½ miles northwest	J. C. Self	--	1930	22	24	5.0
	Distance from Silsbee						
46	3½ miles northwest	I. A. Skinner	--	--	17	36	2.5
47	2¼ miles northwest	Dora McDonald	--	1925	64	6	2.0
48	2½ miles northeast	B. I. Hutto	--	1940	47	30	4.0
49	1¼ miles northeast	Kirby Lumber Corp.	J. D. Adams	1937	671	6	--
50	do.	do.	Frank Balcar	1939	337	8,6	--
51	1 mile northeast	do.	do.	1939	305	8	--
52	4 miles east	Sheffield Estate	--	1930	25	1¼	--
53	2 miles east	Edgar Brown	Edgar Brown	1936	23	1¼	--
54	In Silsbee	City of Silsbee	Layne-Texas Co.	1931	356	16,12¾, 6-5/8	0
55	½ mile northwest	Gulf, Colorado & Santa Fe R.R. Co.	--	1904	400	8,6	--
56	do.	do.	W. J. Glass	1913	900	8,6	--
57	do.	do.	do.	1906	468	8	0

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
37	+7.3	Mar. 2, 1941	Flows	N	Estimated flow 4 gallons a minute. Temperature 70° F.
38	41.79	Apr. 27, 1942	B,H	D,S	Dug well.
39	6.19	do.	B,H	D,S	Do.
40	--	--	None	N	Screen from 338 to 363 feet. Formerly supplied water for drilling rigs.
41	e/63	1942	C,G,7	D,Ind	Casing: 127 feet of 7-inch. Screen from 127 to 153 feet. Reported yield 30 gallons a minute. See log.
42	--	--	C,H	D,S	
43	30.54	Apr. 27, 1942	B,H	D,S	Dug well.
44	--	--	C,G,1½	D,S	
45	6.16	Apr. 28, 1942	C,H	D,S	Dug well.
46	6.01	Apr. 28, 1942	B,H	D,S	Dug well.
47	14.97	do.	B,H	D,S	
48	16.62	Apr. 27, 1942	B,H	D,S	Dug well.
49	--	--	--	--	Screen from 631 to 671 feet. Screen sanded up in 1939. Replaced by wells 50 and 51. See log.
50	--	--	T,E,7½	Ind	Casing: 266 feet of 8-inch; remainder 6-inch with 20 feet of screen. With well 51 supplies 150,000 gallons a day to sawmill. See log.
51	--	--	A,-	Ind	Casing: 246 feet of 8-inch; remainder 6-inch with 20 feet of screen. See log.
52	--	--	C,E,¼	D,S	
53	--	--	C,E,¼	D,S	
54	e/52	Jan. 1, 1938	T,E,25	P	Casing: 81 feet of 16-inch; 123 feet of 12¾-inch; 82 feet of 6-inch. Screen from 286 to 353 feet. Drawdown 38 feet after pumping 325 gallons a minute for 15 hours. See log.
55	--	--	A,-	Ind	Casing: 389 feet of 8-inch. Screen: 55 feet of 6-inch lapped 44 feet into 8-inch. With wells 56 and 57 supplies railroad shops.
56	--	--	A,-	Ind	Casing and screens: 763 feet of 8-inch; 137 feet of 6-inch. See log.
57	e/30	1907	A,-	Ind	Temperature 80° F. Deussen No. 411d/. See log.

Records of wells in Hardin County -- Continued

Well	Distance from Silsbee	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
58	2 miles west	J. C. Hughes	--	1941	18	8	0
59	1¾ miles southeast	Sam Pittlepage	Tim Gentry	1905	26	6	4.0
60	2½ miles southwest	Isaac Doiron	Stagg Supply Co.	1942	159	2	--
61	5 miles southwest	Dr. S. G. Ellis	Virgil Phelps	1942	140	2½	0
62	6 miles southwest	R. H. Fountain	--	1892	20	42	3.0
63	5½ miles south	Stewart R. Smith Estate	Frank Balcar	1935	107	4	--
64	6 miles south	Mrs. C. V. Etheredge	do.	1940	132	2	0
65	7 miles southeast	Houston Oil Co.	Houston Oil Co.	1934	365	4	0
66	11 miles south	Kieth Estate	--	1921	200±	4	0
67	do.	do.	--	1921	200	4	1.0
68	do.	do.	Frank Balcar	1929	1,017	6	1.5
69	9 miles south	Roy Schaeffer	Paul Acheson	1940	140	1¼	--
70	8 miles south	F. G. Reid	do.	1940	201	1¼	--
71	8 miles southwest	C. C. Whittington	--	Old	19	48	3.0
72	9 miles southwest	Houston Oil Co.	Houston Oil Co.	1935	3,234	13-3/8, 9-5/8	--
73	do.	do.	--	1932	198	6	0
74	do.	do.	Republic Production Co.	1934	437	7	0
	Distance from Kountze						
75	5½ miles southeast	Pure Transportation Co.	--	1933	23	24	0.5
76	4½ miles southeast	A. R. Richardson	J. D. Adams	1937	136	4	0.5
77	1¾ miles southeast	C. E. Rhodes	J. B. Jordan	1940	135	2½	0
78	¼ mile south	Hardin County Courthouse	Paul Acheson	1940	134	4	--
79	In Kountze	Ben J. Creel	Alvin Crews	1939	138	5	0

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
58	1.91	Apr. 28, 1942	C,E,¼	D,S	
59	7.32	do.	C,H	D,S	
60	--	--	C,E,¼	D,S	
61	e/12	Jan. --, 1942	C,H	D,S	
62	6.39	May 2, 1942	B,H	D,S	Dug well.
63	--	--	C,E,¼	D,S	Screen from 94 to 108 feet. See log.
64	e/22	1940	C,E,¼	D,S	Sand from 118 to 132 feet. Screen from 128 to 132 feet.
65	e/+	1942	Flows	D	Water reported mineralized. Formerly supplied water for drilling rig.
66	e/+	1942	Flows	N	In bed of creek.
67	+	Apr. 8, 1942	Flows	D,S	Operates hydraulic ram. Estimated flow 15 gallons a minute.
68	+	do.	Flows	N	Measured flow 30 gallons a minute.
69	--	--	C,E,¼	D	Screen from 136 to 140 feet.
70	--	--	C,E,¼	D,S	Screen from 197 to 201 feet. Sand from 191 to 201 feet.
71	9.86	May 2, 1942	B,H	D,S	Dug well.
72	--	--	--	--	Oil test. See log.
73	e/20	1932	A,-	N	Casing: 120 feet of 6-inch; 33 feet of 4-inch. Screen from 154 to 193 feet. Formerly supplied water for drilling rigs. See log.
74	e/20	1934	C,G,-	D,Ind	Casing: 347 feet of 7-inch. Screen from 347 to 437 feet. Estimated yield 4 gallons a minute. Supplies oil camp. See log.
75	6.46	May 2, 1942	C,G,1	D,S	Dug well.
76	37.22	Apr. 29, 1942	C,G,3	D,S	Screen from 126 to 136 feet.
77	e/20	1940	C,E,¼	D,S	Sand from 122 to 135 feet.
78	--	--	C,E,¼	P	Screen from 126 to 134 feet.
79	e/30	Apr. 6, 1942	T,E,2½	P	Screen from 128 to 138 feet. One of 2 wells of same depth that supplies part of town of Kountze. See log.

Records of wells in Hardin County -- Continued

Well	Distance from Kountze	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
80	½ mile northeast	Williams Lumber Co.	C. E. Brown	1942	140	4	--
81	do.	do.	do.	1942	140	4	--
82	2 miles northeast	H. G. French	H. G. French	1934	30	36	0
83	4 miles northeast	D. V. Trahan	--	1940	32	36	3.0
84	3¼ miles northwest	Olive-Sternenberg Lumber Co.	Jake Giles	1906	387	8	--
85	do.	Sternenberg Lumber Co.	--	--	113	6	3.5
86	3¾ miles west	J. W. Williams	--	Old	33	24	2.5
87	1½ miles southwest	E. H. Wheeler	--	1933	18	24	0
88	do.	Nona Mills Lumber Co.	Jack W. Frazier	1940	8,515+	9-7/8	--
89	2¾ miles southwest	W. R. Thebedeaux	W. R. Thebedeaux	1910?	19	36	3.0
90	6 miles southwest	J. C. Beaumont	--	1867	17	48	3.0
91	5 miles southwest	Nona Mills Lumber Co.	Hooks, Roark, Robichaux & Petty	1925	2,510	8	--
92	4¾ miles southwest	Houston Oil Co.	--	1939	20	1¼	--
93	8½ miles south	Nona Mills Lumber Co.	Keoughan & Worland	1921	3,003	12, 10,8¼	--
94	7½ miles southwest	Mrs. W. A. Fillingin	--	1905	35	1¼	--
	Distance from Saratoga						
95	3½ miles southeast	Bennett Cotton	Bennett Cotton	1922	104	4	0
96	3¾ miles east	Allen and Allen Lumber Co.	Kelly Robinson	1940	280	6	0
97	2 miles east	Caswell Estate	Pitre Water Well Drilling Co.	1940	190	--	--
98	1½ miles northeast	Rio Bravo Oil Co.	W. A. Hanlen	1913	656	8,4	0
99	1 mile east	do.	E. C. Curtiss	1917	513	6,4	0

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
80	--	--	A,-	Ind	Screen from 128 to 140 feet. With well 81 supplies sawmill.
81	--	--	T,E,3	Ind	Screen from 128 to 140 feet.
82	4.26	Apr. 28, 1942	C,H	S	Dug well.
83	22.14	do.	B,H	D,S	Do.
84	e/75	1907	None	N	Former yield reported 120 gallons a minute. Deussen No. 412 d/ See log.
85	21.82	Apr. 6, 1942	None	N	Located 55 feet northwest of well 85.
	21.61	Apr. 29, 1942			
86	16.02	Apr. 29, 1942	B,H	D,S	Dug well.
87	8.08	May 2, 1942	C,E,¼	D,S	Do.
88	--	--	--	--	Oil test. Electrical log in files of Texas State Board of Water Engineers, starting at 1,038 feet shows sands at 1,075-1,125, 1,250-1,275 and 1,350-1,370 feet.
89	8.94	May 1, 1942	B,H	D	Dug well.
90	7.11	do.	C,H	D,S	Do.
91	--	--	--	--	Oil test. See log.
92	--	--	C,H	D,S	
93	--	--	--	--	Oil test. See log.
94	--	--	C,H	D,S	
95	e/13	1922	C,G,2½	D,S	Sand from 84 tc 104 feet. Screen from 96 to 104 feet.
96	e/12	1942	C,S	Ind	Screen from 266 to 280 feet. Supplies 30 gallons a minute to sawmill.
97	--	--	--	--	Formerly supplied water for drilling oil test. Pipe pulled and hole abandoned.
98	+	Apr. 7, 1942	Flows	D,Ind	Converted oil test. Originally drilled to 2,061 feet. Plugged back and screened from 548 to 656 feet. See log.
99	+	do.	Flows	D,Ind	Well reworked in 1925. Now screened from 445 to 490 feet with 4-inch. Reported flow in 1925 was 24 gallons a minute. See log.

Records of wells in Hardin County -- Continued

Well	Distance from Kountze	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
100	2 miles southeast	--	Gulf Oil Corp.	1927?	2,000±	--	--
101	2 miles south	R. E. Teel	H. W. Teel	1941	271	2½	0
102	4 miles south	Rufus Evans	--	1941	20±	1¼	--
103	¼ mile southwest	The Texas Co.	The Texas Co.	1904	183	6	0
104	¼ mile southeast	Roark and Hooks	Lawrence Fillingem	1940	180	2	0
105	¼ mile northwest	Teel Bros.Auto Co.	E. J. Robinson	1925	186	2½	0
106	½ mile northwest	Jordan Heirs	Harry Graham	1914	2,000	6,4	0
107	¾ mile northwest	Mittie Teel No. 1	Crown Central	1941	2,975	--	--
108	1 mile northwest	Gulf Oil Corp.	Guffey Petroleum Co.	1903	472	6,3	4.0
109	2 miles northwest	A. E. Payne	Pitre Water Well Drilling Co.	1936	360	3	0.5
110	5 miles northwest	Antonio Perez	--	1927	14	36	2.5
111	3 miles southwest	The Texas Co.	R. D. Jones	1936	256	6,2½	--
	Distance from Batson						
112	1¼ miles northeast	Gulf, Colorado & Santa Fe R.R. Co.	Gulf Oil Corp.	1904?	1,500±	4,2	--
113	1¾ miles northwest	Bishop Oil Co.	Sun Oil Co.	1904?	1,300±	6,3	--
114	2½ miles west	C. P. Salankard	--	1937	42	1¼	0
115	½ mile west	J. Guedry Estate	W. O. Christian	1940	7,290	8¾	--
116	In Batsen	J. M. Rogers	J. M. Rogers	1932	168	2½	1.5
117	¾ mile southwest	Jordan Estate	Pitre Water Well Drilling Co.	1938	220	4	0 2.5
118	1¾ miles southwest	Marh Hooks	Danciger Oil & Refining Co.	1934	4,795	12½, 7-5/8	--
119	2½ miles south	Otis Guedry	Otis Guedry	1939	43	1¼	--

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
100	e/+	1927	--	--	Oil test. Reported strong flow of warm sulphur water from deep sands when drilled. Plugged and abandoned.
101	e/30	Jan. --, 1941	C,G,½	D,S	Screen from 266 to 271 feet.
102	--	--	C,H	D,S	
103	+	Apr. 30, 1942	Flows	N	Estimated flow 5 gallons a minute.
104	e/ 6	1940	C,E,½	D,P	Sand from 162 to 180 feet.
105	e/ 7	1925	C,E,¾	P	Screen from 166 to 186 feet. Supplies water to part of Saratoga.
106	+	Apr. 7, 1942	Flows	P	Reported 1,900± feet of 6-inch casing. Supplies water to part of Saratoga.
107	--	--	--	--	Oil test. Electrical log in files of Texas State Board of Water Engineers shows sands at 140-160, 360-460, 500-520, 590-630, and 700-730 feet and several sands between 1,350 and 1,550 feet.
108	+	Apr. 7, 1942	C,E,¼ Flows	D,S	Screen from 452 to 472 feet. One of three wells formerly used by several oil companies.
109	13.81	Apr. 30, 1942	Cf,E,¾	D,S	
110	4.53	do.	B,H	D,S	Dug well.
111	e/ 0	1936	C,E,¼	D,S	Screen from 229 to 256 feet.
112	+	Apr. 16, 1942	Flows	P,Ind	Converted oil test. Supplies water to part of Batson. Reported 18 pound pressure in 1935.
113	+	do.	Flows	D,Ind	Converted oil test. Supplies water to oil company camp and lease.
114	e/18	1937	C,W	D,S	Screen from 36 to 42 feet. Sands from 18 to 28 and 38 to 42 feet.
115	--	--	--	--	Oil test. Electrical log in files of Texas State Board of Water Engineers, starting at 951 feet shows several thin sands between 1,300 and 1,400 feet and 1,600 and 1,650 feet.
116	24.70	May 1, 1942	C,E,¾	D,S,P	Screen from 158 to 168 feet. Supplies several houses and stores in Batson. See log.
117	e/ 8 12.59	1938 May 1, 1942	None	N	Formerly used to supply water for drilling.
118	--	--	--	--	Oil test. See log.
119	--	--	C,H	D,S	Screen from 40 to 43 feet.

Records of wells in Harlin County -- Continued

Well	Distance from Batson	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
120	3¾ miles southwest	D. D. Bagwell	Edgar Beavers	1928	72	1½	0
121	3½ miles south	G. A. Reynolds	G. A. Reynolds	1938	82	1½	--
	Distance from Sour Lake						
122	6½ miles northwest	Isaac Pelt	Gilcrease and Alpers	1939	192	1½	0
123	6 miles northwest	Atlantic Pipe Line Co.	Frank Balcar	1929	96	6	--
124	3½ miles northwest	S. J. Jones	--	1905	70	1½	0
125	5 miles north	Mrs. Clara Warren	J. L. Courtney	1915	32	1¼	--
126	5 miles northeast	M. Glaze	M. Glaze	1909	30	1¼	--
127	4½ miles northeast	G. H. Rankin	G. H. Rankin	1927	59	6	3.0
128	6 miles northeast	State Highway Dept.	--	1933	400±	3	1.5
129	9 miles northeast	Unknown	--	Old	19	36	3.5
130	6 miles northeast	C. W. Howth No. 1	Resource Oil Co.	1936	6,016	9-7/8, 6¾	--
131	5½ miles northeast	Moody Brown	--	1908	16	36	3.0
132	2 miles north	-- Glass	H. P. Baker	1941	1,830	7-7/8,5½	--
133	do.	The Texas Co. Fee No. 2	R. S. Campbell, et.al.	1941	1,620	7-7/8,6½	--
134	1½ miles northwest	Lone Acre Oil Co.	Lone Acre Oil Co.	1903	315	6	2.0
135	do.	J. M. Guffey Petroleum Co.	--	Old	1,400	--	0
136	do.	The Texas Co.	--	1907	300±	8,6	--
137	1½ miles northwest	do.	The Texas Co.	1907	315	8,6	0
138	1 mile north	Gulf Refining Co.	--	1925	406	6,4½	2.0
139	½ mile north	F. C. Colling	Harold Carpenter	1925	365	8,6,4	15.0
140	¾ mile east	Sun Pipe Line Co.	Sun Pipe Line Co.	1935	60	1¼	0

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
120	e/16	1928	C,H	D,S	Drilled to 85 feet but pipe pulled back and screen set at 72 feet.
121	--	--	C,H	D,S	
122	e/18±	1939	C,E,¼	D,S	Screen from 184 to 192 feet. Water in nearby well 42 feet deep reported highly mineralized.
123	--	--	C,E,2	D,S	Casing: 76 feet of 6-inch. Screen from 76 to 86 feet. 10 feet of 6-inch anchor on bottom. See log.
124	e/ 8	1940	C,E,¼	D,S	Supply reported from second water sand.
125	--	--	C,H	D,S	Screen from 28 to 32 feet.
126	--	--	C,H	D,S	
127	7.13	May 2, 1942	C,H	D,S	
128	e/+	1933	--	--	Siesmograph test hole. Pipe pulled and hole abandoned.
129	7.17	May 2, 1942	B,H	D,S	Dug well.
130	--	--	--	--	Oil test. Electrical log in files of Texas State Board of Water Engineers starting at 730 feet shows several thin sands between 900 and 1,100 feet and 1,400 and 1,800 feet.
131	6.66	May 2, 1942	B,H	D,S	Dug well.
132	--	--	--	--	Oil test. Electrical log in files of Texas State Board of Water Engineers.
133	--	--	--	--	Do.
134	+	Apr. 9, 1942	Flows	D	Formerly used to supply water for drilling. Estimated flow 5 gallons a minute.
135	e/+	1907	Flows	--	Oil test. Water reported salty from sand at 822 feet. Deussen No. 437d/. Plugged and abandoned. See log.
136	--	--	C,G,35	Ind	With well 137 supplies camp and lease.
137	e/ 8	1936	C,G,35	D,S	Screen from 293 to 315 feet. Estimated yield 20 gallons a minute.
138	+	May 2, 1942	C,E,¾	D	Casing: 226 feet of 6-inch; 180 feet of 4½-inch. Estimated flow 1 gallon a minute.
139	+	Apr. 9, 1942	Flows	Sw	Reported to have flowed over top of derrick when drilled.
140	e/12	1935	C,E,1¼	D	Screen from 56 to 60 feet. Supplies drinking water for oil camp.

Records of wells in Hardin County -- Continued

Well	Distance from Sour Lake	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
141	¼ mile southeast	C. L. Phelps	Paul Acheson	1940	67	1¼	--
142	½ mile southwest	City of Sour Lake No. 1	Homer Wright	1941	177	9,6	0
143	do.	City of Sour Lake No. 2	do.	1941	177	9,6	0
144	½ mile south	Gulf States Utilities Co.	--	1922	190±	8	0
145	¾ mile south	F. H. Carpenter	Billy Underwood	1922	700+	6	3.5
146	1½ miles south	H. M. Terry	H. M. Terry	1927	70±	8	--
	Distance from Votaw						
147	6½ miles east	Gulf, Colorado & Santa Fe R.R. Co.	W. J. Giles	1905	776	8,6	--
148	3¾ miles southwest	W. Tempner No. 1	Pink Oil Co.	1925	1,857	--	--

a/ Plus (+) indicates water level above measuring point.

b/ Pump or lift: T, turbine; Cf, centrifugal; A, air lift; C, cylinder; B, rope and bucket.
Power: E, electric; G, gas or gasoline engine; S, steam; W, windmill; H, hand.
Figure indicates horsepower.

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
141	--	--	C,E,¼	D	Screen from 63 to 67 feet.
142	6.02	Apr. 9, 1942	--	P	Casing: 145 feet of 9-inch; 8 feet of 6-inch. Screen from 153 to 176 feet. Public water supply; not completed. See log.
143	6.03	do.	--	P	Casing: 144 feet of 9-inch; 9 feet of 6-inch. Screen from 153 to 177 feet. Public water supply; not completed. See log.
144	e/ 6	do.	C,E,½	N	Formerly supplied ice plant.
145	+	do.	Flows	D,S	Estimated flow 5 gallons a minute.
146	--	--	C,E,1	P	Supplies Town of Grayburg.
147	--	--	--	--	Casing: 426 feet of 8-inch; 310 feet of 6-inch. Screen from 310 to 350 feet. Original depth 426 feet. Deepened in 1913. Plugged and abandoned in 1931. See log.
148	--	--	--	--	Oil test. Approximate location on map, well not visited. See log.

c/ P, public supply; Ind, industrial; RR, railroad; Sw, swimming pool; D, domestic; S, stock; N, none.

d/ Number under which well is listed in U. S. Geological Survey Water-Supply Paper 335, Alexander Deussen, 1914.

e/ Water level reported by driller or owner.

Table of Drillers' Logs of wells in Hardin County, Texas

	Thickness (feet)	Depth (feet)
Well 4		
Gulf Colorado and Santa Fe R. R. Co., in Votaw.		
Clay	18	18
Sand	150	168
Coarse-grained sand	35	203
Fine-grained sand	23	226
Coarse-grained sand	34	260
Clay	5	265
Open water sand	55	320
Clay	34	354
Rock	1	355
Well 10		
Gulf Colorado and Santa Fe RR Co., 6½ miles southeast of Votaw.		
Clay	243	243
Sand	31	274
Gumbo	84	358
Sand	87	445
Sandy shale	194	639
Sand	33	672
Gumbo	139	811
Sand	57	868
Well 15		
Kirby Lumber Corp. No. 3, ½ mile northwest of Honey Island.		
Red clay	24	24
Sand	2	26
Clay	10	36
Shale	11	47
Brown sand	33	80
Clay	30	110
Sand	6	116
Shale	44	160
Sand	4	164
Clay	18	182
Shale	34	216
Brown sand	37	253
Clay	2	255
Gravel and sand	38	293
Well 16		
Kirby Lumber Corp. No. 2, 1/4 mile northwest of Honey Island		
Red sandy clay	28	28
Well 16--Continued		
Shale	28	56
Fine-grained sand	22	78
Shale	4	82
Yellow clay	19	101
Sand and gravel	26	127
Well 19		
Gulf Colorado and Santa Fe RR Co., 2½ miles southeast of Honey Island.		
Soil	3	3
Clay	15	18
Dry sand	48	66
Dark-colored clay	9	75
Water sand	193	268
Well 29, partial log		
Olive Sternenberg, 4½ miles southeast of Village Mills.		
Surface sand	158	158
Surface sand and clay	72	230
Broken shale	110	340
Sand and boulders	30	370
Shale	63	433
Broken sand	40	473
Shale	63	536
Shale and lime	51	587
Sticky shale	5	592
Shale	28	620
Sand and gravel	40	660
Shale	37	697
Sand and gravel	83	780
Gumbo	20	800
Sand and boulders	50	850
Sticky shale and lime	100	950
Sand and boulders	35	985
Sticky shale	37	1,022
Sand and boulders	23	1,045
Sticky shale and lime	31	1,076
Broken shale and sand	51	1,127
Sticky shale	73	1,200
Sandy shale	60	1,260
Sticky shale	309	1,569
Sand and boulders	24	1,593
Sticky shale and lime	48	1,641
Sticky shale	15	1,656
Sand and gravel	51	1,707
Gumbo	13	1,720
Sand and lime	75	1,795
Sand and boulders	35	1,830
Tough shale and lime	30	1,860

(Continued on next page)

Table of Drillers' Logs of wells in Hardin County--Continued

	Thickness (feet)	Depth (feet)
Well 29, partial log--continued		
Boulders	22	1,882
Sticky shale	2	1,884
Gumbo and lime	16	1,900
Sandy shale and lime	23	1,923
Sticky shale	3	1,926
Gumbo and lime	69	1,995
Sticky shale and lime	85	2,080
Sand and boulders	56	2,136
Sticky shale and lime	12	2,148
Sandy shale and lime	70	2,218
Sticky shale	77	2,295
Boulders	5	2,300
Sand and shale	10	2,310
Sand	36	2,346
Tough shale and lime	25	2,371
Hard sticky shale	42	2,413
Sticky shale	7	2,420
Water sand	100	2,520
TOTAL DEPTH		6,524
Well 31		
H. J. Halliday, 5½ miles southeast of Village Mills		
Sand	27	27
Red clay	9	36
Yellow clay	6	42
Sand	8	50
Clay and shale	20	70
Clay	38	108
Sandy shale	34	142
Sand	14	156
Shale	24	180
Yellow clay	103	283
Sand and gravel	12	295
Well 41		
American Republic Corp., 7 miles north of Village Mills.		
Surface clay	80	80
Fine-grained sand	40	120
Clay	6	126
Sand and gravel	27	153
Well 49		
Kirby Lumber Corp., 1¼ miles northeast of Silsbee.		
Surface sand and clay	45	45
Sandy clay	20	65

	Thickness (feet)	Depth (feet)
Well 49--Continued		
Shale	46	111
Water sand	89	200
Clay	20	220
Sand	52	272
Clay	88	360
Shale	60	420
Sandy shale	70	490
Clay	30	520
Sand and blue shale	72	592
Sand	28	620
Clay	10	630
Water sand	41	671
Well 50		
Kirby Lumber Corp., 1¼ miles northeast of Silsbee.		
Red clay	22	22
Sand	4	26
Clay	14	40
Mixed formation	83	123
Red clay	24	147
Sandy shale	63	210
Yellow clay	22	232
Sand and shale	20	252
Clay	26	278
Gravel and fine-grained sand	48	326
Shale	11	337
Well 51		
Kirby Lumber Corp., 1 mile northeast of Silsbee.		
Red clay	22	22
Sand	4	26
Clay	11	37
Sand and shale	81	118
Clay	22	140
Sand	52	192
Clay	18	210
Shale	30	240
Clay	9	249
Shale	21	270
Sand	35	305
Well 54		
City of Silsbee, in Silsbee.		
Surface clay	16	16

(Continued on next page)

Table of Drillers' Logs of wells in Hardin County--Continued

	Thickness (feet)	Depth (feet)
Well 54--Continued		
Sand	15	31
Clay	20	51
Sand	14	65
Clay	17	82
Sand	274	356
Well 56		
Gulf Colorado and Santa Fe R. R. Co., 1½ miles northwest of Silsbee.		
Soil	12	12
Yellow clay	34	46
Fine-grained gray sand	6	52
Red clay	21	73
Sand and gravel	285	358
Hard blue shale	20	378
Gumbo	16	394
Blue shale	20	414
Gumbo	8	422
Packsand	8	430
Sand	26	456
Blue gumbo	6	462
Coarse-grained sand	14	476
Blue gumbo	8	484
Blue shale	31	515
Shale and lime rock	22	537
Rock	24	561
Gumbo	19	580
Packsand	7	587
Blue gumbo	18	605
Lime rock and gumbo	13	618
Fine-grained white sand	9	627
Gumbo	19	646
Sand and shale	15	661
Gumbo	35	696
Blue shale	14	710
Sand	37	747
Gumbo	24	771
Sand and shale	33	804
Coarse-grained sand	22	826
Gumbo	14	840
Sand	41	881
Gumbo and shale	19	900
Well 57		
Gulf Colorado and Santa Fe R. R. Co., ½ mile northwest of Silsbee.		
Clay and sand	88	88
Sand	200	288
Blue sand	86	374
Yellow clay	18	392
Water sand	74	466
Clay	2	468
Well 63		
Stewart R. Smith Estate, 5½ miles south of Silsbee.		
Red clay	21	21
Sand	2	23
Yellow clay	17	40
Shale	3	43
Red clay	21	64
Cypress log	1	65
Fine-grained sand	6	71
Clay	8	79
Sand	28	107
Well 72, partial log		
Houston Oil Co., 9 miles southwest of Silsbee.		
Sand	93	93
Clay	16	109
Sand	63	172
Blue shale	23	195
Sand	75	270
Sticky shale	40	310
Sand and boulders	65	375
Sandy shale	76	451
Shale	49	500
Sand	39	539
Shale and lime	20	559
Shale and streaks of lime	206	765
Sand	14	779
Shale and streaks of lime	114	893
Shale and lime	128	1,021
Shale	2	1,023
Sand and boulders	24	1,047
Sticky shale	53	1,100
Sand	25	1,125
Shale and lime	70	1,195
Sand and boulders	30	1,225
Shale and lime	135	1,360
Sand and boulders	24	1,384
Shale	10	1,394

(Continued on next page)

Table of Drillers' Logs of wells in Hardin County--Continued

	Thickness (feet)	Depth (feet)
Well 72, partial log--Continued		
Sand	15	1,409
Shale and lime	73	1,482
Sand and boulders	20	1,502
Shale and lime	59	1,561
Sand	39	1,600
Shale and lime	177	1,777
Sand and boulders	22	1,799
Shale and lime	56	1,855
Yellow clay (cored 1,857-63	13	1,868
Sticky shale	32	1,900
Shale and streaks of lime	32	1,932
Shale and lime	409	2,341
Sticky shale	42	2,383
Sand	3	2,386
Water sand	4	2,390
Shale (cored 2,386-91)	1	2,391
Sticky shale and lime	93	2,484
Sand	13	2,497
Water sand (cored 2,487-93)	15	2,512
TOTAL DEPTH		3,234
Well 73		
Houston Oil Co., 9 miles southwest of Silsbee.		
Surface sand and clay	21	21
Sand and shale	33	54
Shale and gumbo	64	118
Sand, shale, and gumbo	47	165
Sand	33	198
Well 74		
Houston Oil Co., 9 miles southwest of Silsbee.		
Surface sandy clay	36	36
Clay	6	42
Sand	93	135
Shale	15	150
Sand	112	262
Shale	39	301
Sand and gravel	136	437
Well 79		
Ben J. Creel, in Kountze.		
Surface material	2	2
Clay	18	20
Clay with streaks of sand	15	35
Hard clay	35	70
Sand	10	80
Clay	21	101
Sand	37	138
Clay		138
Well 84		
Olive-Sternberg Lumber Co., 3¼ miles northwest of Kountze.		
Sawdust	8	8
Sand	28	36
Yellow clay	28	64
Sand	49	113
Blue gumbo	43	156
Sand	26	182
Blue gumbo	104	286
Water sand	53	339
Well 91		
Nona Mills Lumber Co., 5 miles southwest of Kountze.		
Sand	7	7
Clay	18	25
Sand	10	35
Clay	57	92
Sand	18	110
Clay	62	172
Sand	88	260
Gumbo with streaks of shale	42	302
Shale	10	312
Gumbo	11	323
Sand	23	346
Gumbo	6	352
Sand	12	364
Gumbo	4	368
Shale	26	394
Gumbo	20	414
Shale	7	421
Gumbo	39	460
Gumbo with streaks of shale	35	495
Gumbo	26	521
Gumbo with streaks of shale	31	552

(Continued on next page)

Table of Drillers' Logs of wells in Hardin County--Continued

	Thickness (feet)	Depth (feet)
Well 91--Continued		
Gumbo	16	568
Shale	13	581
Hard sand	45	626
Sand and gumbo	4	630
Sand	38	668
Gumbo	2	670
Sand	7	677
Hard sand	18	695
Gumbo	10	705
Sand	24	729
Hard sand	4	733
Gumbo	4	737
Sand	13	750
Gumbo	8	758
Sand	8	766
Gumbo	14	780
Sand	4	784
Soft gumbo	6	790
Hard lime and sticky gumbo	28	818
Sand	4	822
Hard sand	6	828
Sand	8	836
Hard gumbo	10	846
Soft gumbo	10	856
Sand	4	860
Lime and sticky gumbo	1	861
Sand with streaks of lime and gumbo	10	871
Gumbo	9	880
Sand	6	886
Hard sand with streaks of lime	5	891
Sand	3	894
Gumbo with streaks of lime	14	908
Hard sand	1	909
Lime and soft sand	6	915
Hard gumbo	20	935
Soft lime	2	937
Gumbo	6	943
Hard sand	2	945
Sand with hard streaks of lime	5	950
Hard gumbo	15	965
Sand with water gravel and streaks of lime	8	973
Gumbo	4	977
Sand with gravel and streaks of lime	4	981
Hard gumbo	7	988
Sand, lime, and water gravel	7	995
Well 91--Continued		
Pink gumbo	15	1,010
Water sand	4	1,014
Gumbo	27	1,041
Water sand	4	1,045
Gumbo	7	1,052
Hard sand and little lime	2	1,054
Gumbo	5	1,059
Loose water sand	36	1,095
Gumbo	12	1,107
Hard sand	2	1,109
Hard gumbo, lime and shale	27	1,136
Sand	6	1,142
Gumbo	3	1,145
Sand	6	1,151
Gumbo	2	1,153
Water sand with streaks of sand and lime	30	1,183
Hard gumbo	18	1,201
Broken hard sand with streaks of hard gumbo	6	1,207
Hard gumbo	4	1,211
Sand	4	1,215
Gumbo	5	1,220
Hard sand streaks	32	1,252
Gumbo	23	1,275
Sand water	2	1,277
Gumbo	2	1,279
Streaks of lime and gumbo	1	1,280
Gumbo	30	1,310
Hard sand	1	1,311
Gumbo	20	1,331
Hard sand	2	1,333
Gumbo	52	1,385
Lime and gumbo	13	1,398
Sand, lime, and shale	2	1,400
Sand	16	1,416
Sand and shale	11	1,427
Gumbo	17	1,444
Hard sand	23	1,467
Sand	21	1,488
Gumbo	39	1,527
Sand	10	1,537
Gumbo	27	1,564
Sand	4	1,568
Gumbo	8	1,576
Hard sand	2	1,578
Gumbo	34	1,612
Sand	2	1,614
Gumbo	48	1,662

(Continued on next page)

Table of Drillers' Logs of wells in Hardin County--Continued

	Thickness (feet)	Depth (feet)
Well 91--Continued		
Sand	6	1,668
Gumbo	12	1,680
Sand	2	1,682
Gumbo	355	2,037
Sand	33	2,070
Gumbo	10	2,080
Sand	25	2,105
Gumbo	35	2,140
Sand	20	2,160
Gumbo	85	2,245
Sand	25	2,270
Gray sand	25	2,295
Gumbo	55	2,350
Sand	10	2,360
Lime	6	2,366
Gumbo and lime	84	2,450
Sand	10	2,460
Gumbo and lime	50	2,510
Well 93		
Nona Mills Lumber Co., 8½ miles south of Kountze.		
Sand and clay	14	14
Red water sand	46	60
Gumbo and shale	180	240
Sand	5	245
Shale and sand	25	270
Gumbo	20	290
Sand	21	311
White sand	49	360
Muck and shale	15	375
Sandy gumbo	21	396
Shale and gumbo	49	445
Gumbo	50	495
Sand	20	515
Gumbo and shale	16	531
Shale	9	540
Sand	7	547
Gumbo	26	573
Shale	15	588
Gumbo	6	594
Water sand	20	614
Sand	20	634
Gumbo	14	648
Shale	22	670
Gumbo	15	685
Water sand	27	712
Gumbo	21	733
Sand	25	758
Gumbo	14	772
Sand	6	778
Well 93--Continued		
Shale	10	788
Gumbo	5	793
Shale	14	807
Sand	18	825
Gumbo	15	840
Shale	11	851
Gumbo	39	890
Sand	60	950
Gumbo	13	963
Sand	20	983
Gumbo	17	1,000
Shale	15	1,015
Gumbo	7	1,022
Sand	16	1,038
Gumbo	10	1,048
Shale	10	1,058
Gumbo	53	1,111
Shale	16	1,127
Sand	10	1,137
Shale	9	1,146
Sand	29	1,175
Gumbo	39	1,214
Shale	34	1,248
Gumbo	12	1,260
Sand	21	1,281
Shale	47	1,328
Rock	1	1,329
Sand	38	1,367
Gumbo and shale	83	1,450
Sand	21	1,471
Shale	25	1,496
Sand	63	1,559
Rock	1	1,560
Sand	132	1,692
Gumbo	38	1,730
Shale	98	1,828
Sand and shale	32	1,860
Shale	56	1,916
Sand	16	1,932
Gumbo	52	1,984
Sand and gravel	35	2,019
Packsand	171	2,190
Sand and shale	191	2,381
Gumbo	7	2,388
Sand and gravel	26	2,414
Sand	115	2,529
Gumbo	6	2,535
Sand	36	2,571
Sandy shale	85	2,656
Muck	17	2,673
Shale and gumbo	57	2,730
Shale and lime	100	2,830

(Continued on next page)

Table of Drillers' Logs of wells in Hardin County--Continued

	Thickness (feet)	Depth (feet)
Well 93--Continued		
Sand	26	2,856
Shale	4	2,860
Sand	62	2,922
Gumbo	20	2,942
Sandy shale	61	3,003
Well 98		
Rio Bravo Oil Co., 1½ miles northeast of Saratoga.		
Surface sand and soft yellow clay	83	83
Soft gray rock	2	85
Close gray sand	20	105
Medium hard blue gumbo	59	164
Close gray sand	48	212
Soft gray rock	1	213
Medium hard blue gumbo	77	302
Loose gray sand	12	302
Hard blue gumbo	88	390
Soft blue shale	5	395
Soft gray rock	1	396
Hard blue gumbo	74	470
Soft gray rock	5	475
Close gray sand and boulders	11	486
Hard gray rock	5	491
Close gray sand	7	498
Medium hard gray rock	5	503
Hard blue gumbo	14	517
Close gray sand	8	525
Hard blue gumbo	15	549
Close gray sand	45	585
Hard blue gumbo	15	600
Hard gray rock	5	605
Close gray sand	4	609
Hard gray rock	1	610
Hard blue gumbo	1	611
Hard gray rock	5	616
Close gray sand	5	621
Hard gray rock	9	630
Hard blue gumbo	2	632
Hard gray rock	2	634
Close gray sand	2	636
Hard gray rock	1	637
Close gray sand	14	651
Hard blue gumbo	5	656
Hard gray rock	1	657
Hard blue gumbo	4	661
Hard gray rock	2	663
Medium hard blue gumbo	22	685
Hard blue shale	15	700
Well 98--Continued		
Hard blue gumbo	21	721
Soft gray rock	2	723
Hard blue gumbo	73	796
Close gray sand	8	804
Hard gray rock	4	808
Soft blue shale and sand	15	823
Soft gray rock	1	824
Hard blue gumbo	59	883
Close gray sand, water	23	906
Hard blue gumbo	40	946
Shale and sand	49	995
Soft blue gumbo	23	1,018
Hard blue gumbo (set 8-inch casing)	2	1,020
Hard blue gumbo	10	1,030
Soft blue shale (8-inch casg. Settled added 13' of csg.) to 1035' 9"	5	1,035
Hard blue gumbo	15	1,050
Hard blue shale	8	1,058
Soft gray rock	1	1,059
Soft blue gumbo	21	1,080
Shale and soft blue sand	9	1,089
Soft gray rock	7	1,096
Soft gray sand	13	1,109
Soft blue gumbo	50	1,159
Shale and sand	23	1,182
Hard gray rock	2	1,184
Shale and soft blue sand	6	1,190
Hard blue gumbo	18	1,208
Hard gray rock	13	1,221
Hard blue gumbo	2	1,223
Hard gray rock	1	1,224
Hard gray sand	11	1,235
Hard blue gumbo	5	1,240
Hard gray rock	1	1,241
Hard blue gumbo	9	1,250
Close gray sand	8	1,258
Hard blue gumbo	17	1,275
Hard gray rock	1	1,276
Hard blue gumbo	2	1,278
Soft gray rock	1	1,279
Hard blue gumbo	13	1,292
Hard gray rock	1	1,293
Close gray sand	27	1,320
Medium hard gray rock	7	1,327
Soft blue shale	9	1,336
Hard blue gumbo	13	1,359
Close gray sand	11	1,370

(Continued on next page)

Table of Drillers' Logs of wells in Hardin County--Continued

	Thickness (feet)	Depth (feet)
Well 98--Continued		
Hard blue gumbo	10	1,380
Hard gray rock	4	1,384
Shale and sand	23	1,407
Hard blue gumbo	15	1,422
Soft gray rock	1	1,423
Hard blue gumbo	24	1,447
Close gray sand	15	1,462
Close hard gray rock	1	1,463
Hard blue gumbo	32	1,495
Close gray sand	15	1,510
Hard blue shale	10	1,520
Hard blue gumbo	25	1,545
Hard blue shale	7	1,552
Hard blue gumbo	8	1,560
Close gray sand	6	1,566
Hard blue gumbo	9	1,575
Close brown sand	20	1,595
Hard blue gumbo	14	1,609
Close gray sand	16	1,625
Hard blue gumbo	17	1,642
Hard brown sand	6	1,648
Hard blue gumbo	19	1,667
Medium hard grey rock	2	1,669
Hard blue gumbo	14	1,683
Close gray sand	8	1,691
Hard blue gumbo	13	1,704
Hard white rock	2	1,706
Soft blue gummy shale	19	1,725
Hard blue gumbo	15	1,740
Soft gray rock	1	1,741
Soft blue gummy shale	12	1,753
Soft gray rock	2	1,755
Soft blue gummy shale	5	1,760
Close gray sand	8	1,768
Medium hard blue gumbo	19	1,787
Hard blue shale	5	1,792
Hard white rock	2	1,794
Hard blue shale	6	1,800
Medium hard blue gumbo	13	1,813
Soft white rock	2	1,815
Sand and soft white shale	20	1,835
White soft rock	1	1,836
Shale and white soft sand	21	1,857
Medium hard white rock	4	1,861
Hard blue gumbo	4	1,865
White close sand	6	1,871
Hard blue gumbo	24	1,895
Close brown sand	12	1,907
Soft brown rock	2	1,909
Hard blue shale	7	1,916
Hard blue gumbo	2	1,918
Hard blue rock	2	1,920
Hard white rock	52	1,972
Hard blue gumbo (Set 1972' 10" of 6-inch casing)	3	1,975
Hard white rock	1	1,976
Hard brown rock	1	1,977
Hard white rock	10	1,987
Loose gray sand, water	7	1,994
Medium white rock	8	2,002
Hard blue shale	3	2,005
Hard blue rock	20	2,025
Hard white rock (losing water) (Unable to fill with water for 24 hours)	36	2,061
Well 99		
Rio Bravo Oil Co., 1 mile east of Saratoga.		
Sand and soft yellow clay	20	20
Loose sand	5	25
Soft blue gumbo	85	110
Loose white sand	5	115
Medium hard blue gumbo	144	259
Close gray sand	4	263
Medium hard gray rock	1	264
Medium hard blue gumbo	91	355
Medium hard rock	5	360
Medium hard blue gumbo	72	432
Close gray sand	9	441
Hard gray rock	6	447
Close gray sand	4	451
Tough blue gumbo	8	459
Close gray sand and boulders	8	467
Medium hard gray rock	4	471
Sand and boulders (water showing)	19	490
Hard gray rock	2	492
Close gray sand (water)	21	513
Well 115, partial log		
J. Guedry Est., 1/2 mile west of Batson.		
Surface clay	86	86
Sand and gravel	85	171

(Continued on next page)

Table of Drillers' Logs of wells in Hardin County--Continued

	Thickness (feet)	Depth (feet)
Well 115, partial log--Continued		
Shale and gumbo	409	580
Sand, water	36	616
Shale and lime	108	724
Sand, water	42	766
Shale and lime	550	1,316
Sand, water	84	1,400
Shale and lime	213	1,613
Sand, water	52	1,665
Sandy shale and lime	153	1,818
Lime rock	2	1,820
Sand, water	12	1,832
Shale and lime	388	2,220
Sticky shale	468	2,688
Sand, water	30	2,718
Sandy shale and lime	380	3,098
Hard lime and shale	92	4,190
Shale and hard lime, top of Frio	430	4,620
Shale and lime	406	5,026
Sand, water	58	5,084
TOTAL DEPTH		7,290
Well 118, partial log		
Mary Hooks, 1¾ miles southwest of Batson.		
Surface clay	30	30
Sand and gravel	105	135
Gumbo and shale	150	285
Sand and gravel	11	296
Sticky shale and boulders	29	325
Sand and gravel	25	350
Gumbo	10	360
Sand and gravel	21	381
Gumbo and gravel	30	411
Sand and gravel	33	444
Gumbo and gravel	28	472
Sand rock	1	473
Rock	1	474
Sand and boulders	9	483
Rock	7	490
Hard sand and boulders	25	515
Rock	5	520
Hard sand and boulders	17	537
Rock	2	539
Hard rock	6	545
Rock	1	546
Hard sand and boulders	19	565
Gumbo	4	569
Sand and boulders	11	580
Gumbo	20	600
Sand and boulders	25	625
Shale, sticky	25	650

	Thickness (feet)	Depth (feet)
Well 118, partial log--Continued		
Gumbo	29	679
Sand and boulders	30	709
Gumbo and boulders	36	745
Gumbo	57	802
Sandy shale	10	812
Gumbo and boulders	63	875
Hard sand and boulders	15	890
Gumbo and boulders	60	950
Shale, sandy	60	1,010
Gumbo and boulders	37	1,047
Gumbo	58	1,105
Water sand	48	1,153
Sticky shale and boulders	10	1,163
Gumbo	12	1,175
Sand and boulders	10	1,185
Gumbo	26	1,211
Water sand	34	1,245
Sticky shale	65	1,310
Hard sand and boulders	2	1,312
Soft sand	3	1,315
Sticky shale and boulders	70	1,385
Gumbo, lime and boulders	16	1,401
Gumbo and lime	29	1,430
Water sand	16	1,446
Sticky shale and lime	43	1,489
Sticky shale	7	1,496
Hard sand	2	1,498
Sand, water (1555)	57	1,555
Sand	5	1,560
Rock	6	1,566
Gumbo	2	1,568
Sand	3	1,571
Sandy shale	18	1,589
Sticky shale and boulders	101	1,690
Gumbo and lime	30	1,720
Sticky shale and boulders	75	1,795
Gumbo, lime	17	1,812
Sand	13	1,825
Sandy shale and boulders	20	1,845
Gumbo and lime	20	1,865
Sticky shale and boulders	57	1,922
Sandy shale and boulders	76	1,998
Sticky shale and boulders	52	2,050

(Continued on next page)

Table of Drillers' Logs of wells in Hardin County--Continued

	Thickness (feet)	Depth (feet)
Well 118, partial log--Continued		
Gumbo	20	2,070
Shale and boulders	40	2,110
Gumbo	9	2,119
Sand and shale	11	2,130
Sticky shale	78	2,208
Sand	19	2,227
Sand and streaks of shale	47	2,274
Sand	61	2,335
Shale	25	2,360
Gumbo and lime	15	2,375
Shale and lime	79	2,454
Shale and sand	5	2,459
Gumbo	11	2,470
Sticky shale	73	2,543
Sand	17	2,560
TOTAL DEPTH		4,795
Well 123		
Atlantic Pipe Line Co., 6 miles northwest of Sour Lake		
Red clay	20	20
Red sand	1	21
Yellow clay	17	38
Shale	8	46
Clay	7	53
Fine-grained sand	4	57
Hard clay	11	68
White coarse-grained sand	28	96
Well 135, partial log		
J. M. Guffey Petroleum Co., 1½ miles northw est of Sour Lake.		
Yellow sand	40	40
Clay	110	150
Sand	125	275
Shale	4	279
Sand	21	300
Shale	330	630
Rock	35	665
Rock, shale, and gumbo	125	790
Sand	20	810
Gumbo	6	816
Sand	84	900
TOTAL DEPTH		1,400
Well 142		
City of Sour Lake No. 1, 1/4 mile southwest of Sour Lake.		
Soil and clay	30	30
Sand	8	38
Clay and sand	16	54
Sand	8	62
Blue clay	14	76
Sand	12	88
Blue shale	18	106
Dark-blue sand	16	122
Blue shale	20	142
Coarse-grained water sand	35	177
Well 143		
City of Sour Lake No. 2, 1/4 mile southwest of Sour Lake.		
Soil, sandy clay	30	30
Sand	8	38
Clay and sand	16	54
Sand	8	62
Blue clay	14	76
Sand	12	88
Blue shale	18	106
Dark-blue sand	16	122
Blue shale	21	143
Coarse-grained white water sand	34	177
Well 147		
Gulf Colorado and Santa Fe R. R. Co., 6½ miles east of Votaw.		
No record	426	426
Fine-grained water sand	15	441
Yellow clay	21	462
Shale and sand	33	495
Fine-grained sand	11	506
Gumbo	12	518
Sand and gravel	22	540
Clay and sand	19	559
Packsand	23	582
Sand and red shale	78	660
Soft gumbo	18	678
Red shale	5	683
Hard shale	6	689

(Continued on next page)

Table of Drillers' Logs of wells in Hardin County--Continued

	Thickness (feet)	Depth (feet)
Well 147--Continued		
Blue gumbo	11	700
Hard shale	6	706
Coarse-grained white sand and gravel	34	740
Gumbo	6	746
No record	30	776
Well 148		
W. Tempner, 3¾ miles southwest of Votaw.		
Surface clay	18	18
Water sand	42	60
Clay	76	136
Sand	132	268
Clay	24	292
Sand and shale	104	396
Gumbo	6	402
Sand and gravel	77	479
Gumbo	11	490
Sand and gravel	35	525
Gumbo	15	540
Hard sand and boulders	70	610
Sandy shale	25	635
Sand and boulders	22	657
Shale and gumbo	88	745
Hard sand	25	770
Shale and boulders	15	785
Hard shale	42	827
Sand	55	882

	Thickness (feet)	Depth (feet)
Well 148--Continued		
Gumbo	76	958
Gumbo and boulders	10	968
Shale and sand	57	1,025
Blue sand	43	1,068
Gumbo	22	1,090
Sand, water	35	1,125
Gumbo	13	1,138
Sand	55	1,193
Gumbo	147	1,340
Dark-brown sand	6	1,346
Brown shale	8	1,354
Gumbo	7	1,361
Sand	2	1,363
Shale, lime, and boulders	33	1,396
Gumbo and shale	119	1,515
Sand and shale	5	1,520
Lime, shell	1	1,521
Blue sandy shale	4	1,525
Gumbo	107	1,632
Sand, water	14	1,646
Gumbo	83	1,729
Sand	5	1,734
Green shale	33	1,772
Sticky shale	4	1,776
Sand	12	1,788
Gumbo	26	1,814
Sand	13	1,827
Gumbo	10	1,837
Sand	4	1,841
Gumbo	16	1,857

Partial analyses of water from wells in Hardin County, Texas

Analyzed at The University of Texas under the direction of W. 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.)
1	J. J. Harrison	31	Apr. 30, 1942	59	3.6	3.2	14	31	2	12	-	9.6	22
a/2	W. E. Bailey	26	do.	175	24	6.8	15	18	8	12	-	100	89
3	Ed Moore	40	do.	162	9.6	7.5	36	18	5	60	-	35	55
4	Gulf, Colorado & Santa Fe R.R.Co. (429b/)	355	--	-	13	-	2.7	38	5.8	-	-	-	-
5	E. Barneycastle	27	Apr. 30, 1942	43	c/	4.4	10	18	2	8.0	-	15	18
6	Houston Oil Co.	25±	do.	262	23	7.8	49	12	2	74	-	100	90
7	P. L. Moye	26	do.	28	3.6	3.2	1.8	6	3	12	-	1.0	22
a/8	Loftin Heirs	22	do.	111	13	8.0	17	61	7	22	0.4	14	65
10	Gulf, Colorado & Santa R.R. Co.	-	Apr. 13, 1942	196	39	1.0	40	201	3	14	.1	0	101
a/12	H. H. McMillan	27	Apr. 30, 1942	172	21	1.9	29	12	7	35	-	72	61
13	Jordan Heirs	18	do.	65	7.6	3.2	10	12	12	13	-	8.0	32
14	Sutton Heirs	21	do.	58	3.2	1.9	14	12	7	12	-	14	16
a/15	Kirby Lumber Corp.No.3	293	Apr. 13, 1942	219	51	2.2	31	122	3	71	.3	0	136
16	Kirby Lumber Corp.No.2	127	Apr. 30, 1942	134	9.6	3.2	40	73	2	43	.4	0	37
17	Kirby Lumber Corp.No.1	116	do.	70	13	0.7	13	18	2	32	-	.5	35
a/18	Mrs. W. J. Bracken	1,953	Apr. 6, 1942	477	4.0	.8	187	377	1.1	77	.9	.2	14
19	Gulf, Colorado & Santa Fe R.R.Co. (443b/)	268	--	-	59	-	33	158	2.2	62	-	-	-
20	A. L. Gore	18	Apr. 29, 1942	77	3.6	4.6	20	31	3	31	-	0	28
21	J. B. Bonham	17	do.	55	2.8	2.2	14	18	12	12	.3	2.5	16
22	Charley E. Lindsey	20±	do.	61	3.2	3.4	12	12	12	16	-	18	22
23	Beckie Holland	19	do.	225	15	18	22	0	2	36	-	132	111
24	Southwestern Settlement & Development Co.	25	do.	511	10	5.6	172	12	37	242	.2	38	48

a/ Analyses of water from selected wells are given in milligram equivalents per liter on page 35.
b/ Number under which well is listed in U. S. Geol. Survey Water-Supply Paper 335, Alexander Deussen, 1914.
c/ Less than 3 parts per million.
d/ Analyzed at Texas State Department of Health Laboratories.

Partial analyses of water from wells in Hardin 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.)
25	Pat Smith	156	Apr. 29, 1942	126	18	12	16	122	2	16	0.1	2.0	92
a/26	Kirby Lumber Corp.	400+	do.	312	8.0	4.4	111	195	44	46	2.8	0	38
27	A. C. Richmond	67	do.	60	4.0	4.4	12	43	2	5.0	-	12	28
28	Tom McNeely	35	do.	431	17	8.0	137	13	3	243	-	14	75
30	E. N. Jordan	78	do.	30	5.6	3.2	0.7	24	2	2.5	-	3.5	27
31	H. J. Galliday	295	do.	140	39	2.2	14	140	7	8.0	.5	0	106
32	Sid McNeely	27	do.	251	20	4.4	50	6	30	40	-	104	68
33	Boy Scouts of America	150±	Apr. 28, 1942	164	43	2.2	20	177	4	8.0	-	0	116
a/34	Mrs. Walter Drake	19	do.	41	0.8	1.0	13	12	7	9.0	.2	4.0	6
35	Ada McDonald	23	do.	35	6.8	2.2	3.0	24	2	6.5	-	2.0	26
37	Kirby Lumber Corp.	-	Mar. 2, 1941	149	-	-	17	142	13	8.0	-	-	104
38	Dennis Ard	53	Apr. 27, 1942	122	13	2.2	25	43	4	17	-	40	41
39	Tom Eason	27	do.	97	4.8	0.7	25	6	7	18	-	38	15
a/41	American Republic Corp.	153	Apr. 10, 1942	70	12	5.8	5.5	61	2	9.5	.2	0	54
42	Southwestern Settlement & Development Co.	20	Apr. 27, 1942	23	2.8	1.0	3.2	6	2	4.0	-	7.0	11
43	H. W. Raimer	42	do.	123	26	4.6	3.7	6	7	24	-	55	33
44	Homer Mason	154	Apr. 28, 1942	60	4.8	2.2	17	55	2	7.0	.1	0	21
45	J. C. Self	22	do.	88	15	3.4	11	37	7	18	-	16	52
46	I. A. Skinner	17	do.	45	6.8	1.0	8.1	12	2	16	-	5.0	21
47	Dora McDonald	64	do.	265	18	16	42	49	3	46	-	116	110
48	B. I. Hutto	47	Apr. 27, 1942	78	19	2.2	1.8	12	3	16	.2	30	56
50	Kirby Lumber Corp.	337	Apr. 14, 1942	60	6.8	1.0	16	49	2	10	-	0	21
52	Sheffield Estate	25	Apr. 27, 1942	24	1.2	1.9	5.1	6	7	6.0	-	0	11
53	Edgar Brown	23	do.	45	3.2	3.4	9.2	24	7	10	.2	0	22
a/54	City of Silsbee	356	Apr. 8, 1942	112	33	1.0	9.9	104	5	12	.1	0	86

a/ Analyses of water from selected wells are given in milligram equivalents per liter on page 35.
b/ Number under which well is listed in U. S. Geol. Survey Water-Supply Paper 335, Alexander Deussen, 1914.
c/ Less than 3 parts per million.
d/ Analyzed at Texas State Department of Health Laboratories.

Partial analyses of water from wells in Hardin 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.)
55	Gulf, Colorado & Santa Fe R.R.Co.	400	Apr. 14, 1942	92	13	2.2	21	79	5	12	0.1	0	41
56	do.	900	do.	157	23	2.2	39	171	4	4.5	.1	0	66
57	do.	463	do.	146	32	4.6	21	159	3	7.5	-	0	98
57	do. (411b/)	468	-	-	36	5.9	24	136	15	26	-	-	-
58	J. C. Hughes	18	Apr. 28, 1942	51	8.0	5.8	2.3	49	3	0.5	-	7.0	44
59	Sam Littlepage	26	do.	556	13	18	152	0	7	222	-	144	106
60	Isaac Doiron	159	May 2, 1942	246	20	4.4	77	262	4	11	.2	0	68
61	Dr. S. G. Ellis	140	do.	150	22	6.8	28	104	2	40	.2	0	84
62	R. N. Fountain	20	do.	61	3.6	3.2	14	18	5	20	-	6.0	22
a/63	Stewart R. Smith Estate	107	do.	186	32	3.2	38	134	2	44	.3	0	92
a/64	Mrs. C.V.Etheredge	132	do.	197	21	7.8	47	134	2	53	.1	0	85
67	Kieth Estate	200	Apr. 8, 1942	295	17	c/	108	305	2	18	-	0	42
a/68	do.	1,017	do.	483	11	1.0	192	427	2	65	1.6	0	31
69	Roy Schaffer	140	do.	219	23	3.4	64	238	2	10	-	0	72
70	F. G. Reid	201	do.	119	19	3.4	24	110	2	16	.2	0	62
71	C.C. Whittington	19	May 2, 1942	157	16	13	17	12	2	58	-	45	93
a/74	Houston Oil Co.	437	do.	181	4.8	0.7	71	183	3	10	.4	1.0	15
75	Pure Transportation Co.	23	do.	55	3.6	3.2	14	49	2	8.0	-	0	22
76	A. R. Richardson	136	Apr. 29, 1942	69	2.8	1.0	23	37	4	20	-	0	11
77	C. E. Rhodes	135	do.	87	8.0	7.1	17	79	3	13	-	0	49
a/78	Hardin County Courthouse	134	do.	58	6.8	1.0	13	24	4	14	.4	7.0	21

a/ Analyses of water from selected wells are given in milligram equivalents per liter on page 35.

b/ Number under which well is listed in U. S. Geol. Survey Water-Supply Paper 335, Alexander Deussen, 1914.

c/ Less than 3 parts per million.

d/ Analyzed at Texas State Department of Health Laboratories.

Partial analyses of water from wells in Hardin 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.)
79	Ben J. Creel	138	Apr. 6, 1942	172	14	2.2	33	75	8.9	32	0.1	0.2	44
80	Williams Lumber Co.	140	Apr. 29, 1942	140	15	1.9	37	61	5	51	.2	0	46
82	H. G. French	30	Apr. 28, 1942	248	22	13	42	18	2	88	-	72	108
83	D. V. Trahan	32	do.	37	0.8	1.0	12	18	3	7.5	-	3.5	6
84	Olive Sternberg Lumber Co. (412b/)	387	--	204	44	2.2	18.3	134	7.0	14	-	.02	-
86	J. W. Williams	33	Apr. 29, 1942	138	6.0	5.8	34	12	5	54	-	27	39
87	E. H. Wheeler	18	May 2, 1942	161	48	5.6	5.1	92	2	54	-	1.0	143
89	W. R. Thebedeaux	19	May 1, 1942	100	8.4	2.7	25	12	11	44	-	3.0	32
90	J. C. Beaumont	17	do.	402	30	13	76	6	10	99	-	171	128
92	Houston Oil Co.	20	May 2, 1942	106	12	5.6	16	24	3	30	-	27	53
94	Mrs.W.A.Fillingin	35	do.	339	110	15	122	237	2	260	-	0	650
95	Bennett Cotton	104	May 1, 1942	188	40	3.2	31	177	10	16	-	.5	112
a/96	Allen & Allen Lumber Co.	280	do.	165	35	1.9	26	79	5	58	.3	0	96
a/98	Rio Bravo Oil Co.	656	Apr. 7, 1942	1,390	14	c/	547	415	2	620	3.2	0	36
99	do.	513	do.	1,390	15	1.0	543	409	2	628	-	0	41
101	R. E. Teel	271	May 1, 1942	293	11	1.9	108	232	2	56	-	0	36
102	Rufus Evans	20±	do.	610	65	8.0	170	464	30	108	.8	0	195
103	The Texas Co.	183	Apr. 30, 1942	218	24	4.4	60	207	3	25	-	0	78
104	Roark & Hooks	180	Apr. 7, 1942	556	15	2.2	209	231	2	190	-	0	46
105	Teel Bros. Auto Co.	186	Apr. 30, 1942	384	11	1.9	144	232	4	108	.6	0	36
106	Jordan Heirs	2,000±	Apr. 7, 1942	1,225	14	c/	483	458	2	498	2.8	0	36
108	Gulf Oil Corp.	472	do.	244	31	3.4	64	201	2	45	-	0	92
a/109	A. E. Payne	360	Apr. 30, 1942	225	64	5.6	17	207	7	29	.3	0	183
110	Antonio Perez	14	do.	97	2.0	5.6	23	12	11	28	-	21	23
111	The Texas Co.	256	May 1, 1942	290	27	0.7	92	250	5	42	.5	0	70

a/ Analyses of water from selected wells are given in milligram equivalents per liter on page 35.
b/ Number under which well is listed in U. S. Geol. Survey Water-Supply Paper 335, Alexander Deussen, 1914.
c/ Less than 3 parts per million.
d/ Analyzed at Texas State Department of Health Laboratories.

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

Results are in parts per million

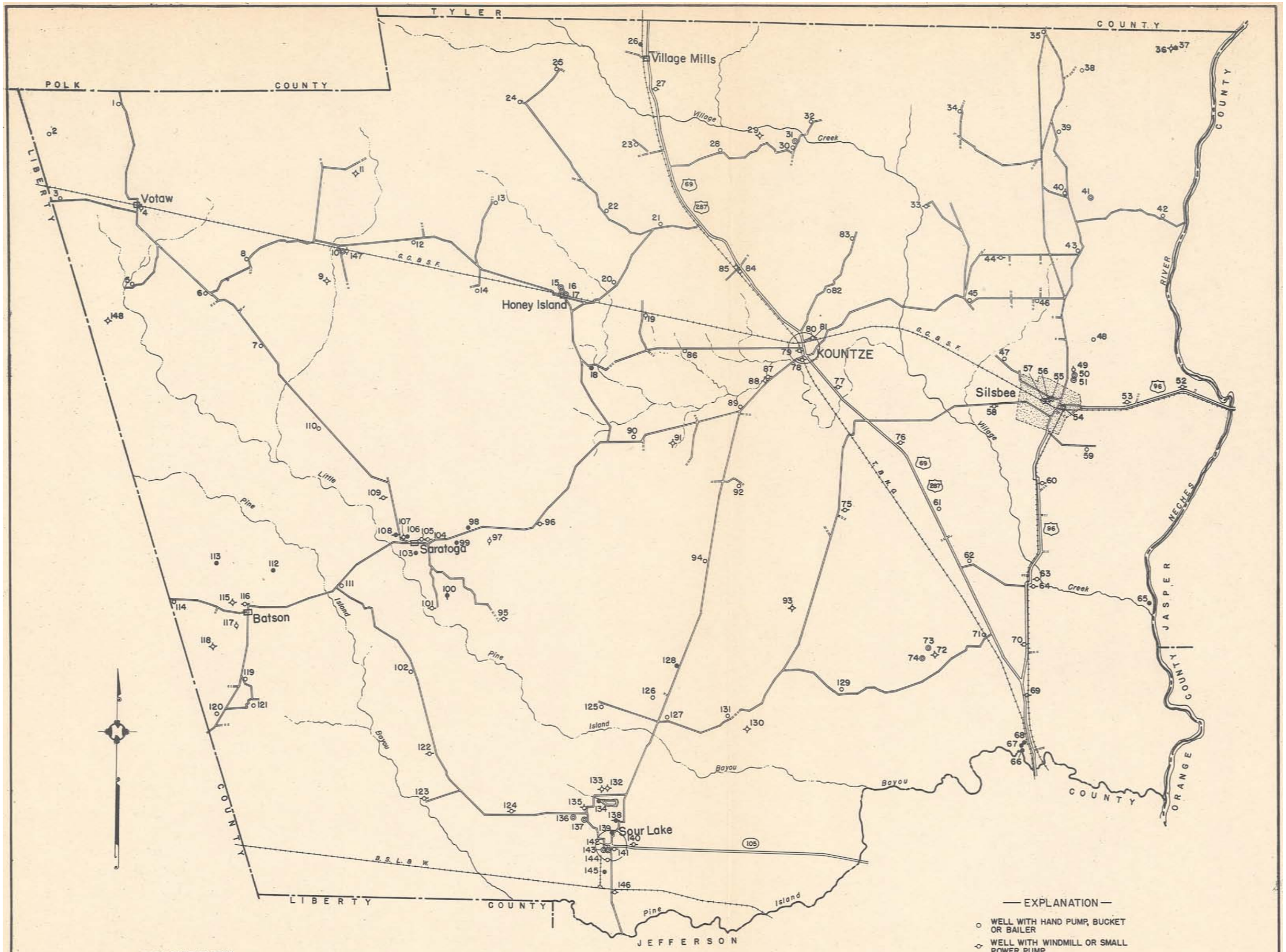
Well	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na + K) (calc.)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Total hardness as $CaCO_3$ (calc.)
112	Gulf, Colorado & Santa Fe R.R.	1,500±	Apr. 15, 1942	493	4.8	0.7	200	354	2	110	1.2	0	15
a/113	Bishop Oil Co.	1,300±	do.	371	6.8	1.0	148	311	3	58	1.0	0	21
114	C. P. Salankard	42	May 1, 1942	225	30	3.2	58	195	2	36	-	0	87
116	J. M. Rogers	168	do.	90	29	1.9	3.5	92	3	7.0	-	.5	81
119	Otis Guedry	43	do.	48	14	1.7	1.8	37	2	8.0	-	2.0	41
a/120	D. D. Bagwell	72	do.	94	16	3.2	15	61	4	16	0.4	9.0	52
121	G. A. Reynolds	82	do.	232	64	4.4	23	238	2	22	-	0	178
a/122	Isaac Pelt	192	do.	271	22	3.2	86	232	2	43	-	.5	67
123	Atlantic Pipe Line Co.	96	do.	452	84	6.8	83	232	8	156	-	0	239
124	S. J. Jones	70	do.	601	76	6.8	151	293	18	205	-	0	219
125	Mrs. Clara Warren	32	May 2, 1942	39	8.8	.7	3.0	18	2	4.0	-	11	25
a/126	M. Glaze	30	do.	133	16	4.4	24	18	7	49	-	24	58
127	G. H. Rankin	59	do.	259	5.6	3.2	97	195	7	50	-	0	27
129	Unknown	19	do.	90	4.0	4.4	22	24	18	22	-	8.0	28
a/131	Moody Brown	16	do.	300	2.8	8.0	9.5	12	18	130	.3	40	40
a/134	Lone Acre Oil Co.	315	Apr. 9, 1942	633	13	1.0	246	342	2	200	2.8	0	36
a/137	The Texas Co.	315	May 1, 1942	320	24	3.2	105	293	2	41	.4	0	72
138	Gulf Refining Co.	406	May 2, 1942	972	9.2	1.9	382	348	2	405	1.0	0	31
139	F. C. Collins	365	Apr. 9, 1942	17,107	463	94	6,088	220	2	10,350	.2	-	1,543
140	Sun Pipe Line Co.	60	May 2, 1942	1,025	92	6.8	305	366	2	439	-	0	259
141	C. L. Phelps	67	May 1, 1942	586	64	4.4	167	372	2	166	-	0	178
d/142	City of Sour Lake	177	--	597	27	6	195	220	2	209	.3	.4	93
144	Gulf States Utilities Co.	190±	Apr. 9, 1942	537	58	12	138	281	10	177	.3	0	192
a/145	F. H. Carpenter	700+	do.	847	4.8	2.2	344	512	2	241	2.4	0	21
146	H. M. Terry	70±	May 2, 1942	351	34	3.2	104	232	7	89	-	0	97

a/ Analyses of water from selected wells are given in milligram equivalents per liter on page 35.
b/ Number under which well is listed in U. S. Geol. Survey Water-Supply Paper 335, Alexander Deussen, 1914.
c/ Less than 3 parts per million.
d/ Analyzed at Texas State Department of Health Laboratories.

Chemical analyses--Continued

Results are in milligram equivalents per liter

Well	Owner	Depth of well	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.)
2	W. E. Bailey	26	Apr. 30, 1942	1.22	0.56	0.64	0.30	0.17	0.34	-	1.61	1.78
8	Loftin Heirs	22	do.	0.64	.66	.72	1.00	.15	.62	0.02	0.23	1.30
12	H. H. McMillan	27	do.	1.06	.16	1.28	.20	.15	.99	-	1.16	1.22
15	Kirby Lumber Corp.	293	Apr. 13, 1942	2.54	.18	1.36	2.00	.06	2.00	.02	0	2.72
18	Mrs. W. J. Bracken	1,950	Apr. 6, 1942	.20	.07	8.15	6.18	.02	2.17	.05	0	.27
26	Kirby Lumber Corp.	400+	Apr. 29, 1942	.40	.36	4.81	3.20	.924	1.30	.15	0	.76
34	Mrs. Walter Drake	19	Apr. 28, 1942	.04	.08	.55	.20	.15	.25	.01	.06	.12
41	American Republic Corp.	153	Apr. 10, 1942	.60	.48	.24	1.00	.04	.27	.01	0	1.08
54	City of Silsbee	359	Apr. 8, 1942	1.64	.08	.43	1.70	.10	.34	.01	0	1.72
63	Stewart R. Smith Estate	108	May 2, 1942	1.58	.26	1.66	2.20	.04	1.24	.02	0	1.84
64	Mrs. C.V.Etheredge	132	do.	1.06	.64	2.04	2.20	.04	1.49	.01	0	1.70
68	Kieth Estate	1,017	Apr. 8, 1942	.54	.08	8.33	7.00	.04	1.83	.08	0	.62
74	Houston Oil Co.	437	May 2, 1942	.24	.06	3.08	3.00	.06	.28	.02	.02	.30
78	Hardin County Courthouse	134	Apr. 29, 1942	.34	.08	.58	.40	.08	.39	.02	.11	.42
96	Allen & Allen Lumber Co.	280	May 1, 1942	1.76	.16	1.14	1.30	.10	1.64	.02	0	1.92
98	Rio Bravo Oil Co.	656	Apr. 7, 1942	.72	.00	23.78	6.80	.04	17.49	.17	0	.72
109	A. E. Payne	360	Apr. 30, 1942	3.20	.46	.73	3.40	.15	.82	.02	0	3.66
113	Bishop Oil Co.	1,400±	Apr. 16, 1942	.34	.08	6.43	5.10	.06	1.64	.05	0	.42
120	D. D. Bagwell	72	May 1, 1942	.78	.26	.66	1.00	.08	.45	.02	.15	1.04
122	Isaac Pelt	192	do.	1.08	.26	3.72	3.80	.04	1.21	-	.01	1.34
126	M. Glaze	30	May 2, 1942	.80	.36	1.06	.30	.15	1.38	-	.39	1.61
131	Moody Brown	16	do.	.14	.66	4.11	.20	.37	3.67	.02	.65	.80
134	Lone Acre Oil Co.	315	Apr. 9, 1942	.64	.08	10.71	5.60	.04	5.64	.15	0	.72
137	The Texas Co.	315	May 1, 1942	1.18	.26	4.58	4.80	.04	1.16	.02	0	1.44
145	F. H. Carpenter	700±	Apr. 9, 1942	.24	.18	14.95	8.40	.04	6.80	.13	0	.42



BASE COMPILED FROM
HIGHWAY PLANNING SURVEY COUNTY ROAD MAP
AND FIELD NOTES

TEXAS BOARD OF
WATER ENGINEERS
IN COOPERATION WITH
U.S. GEOLOGICAL SURVEY

MAP OF HARDIN COUNTY, TEXAS
SHOWING LOCATION OF WATER WELLS

SCALE
1 0 1 2 3 4 MILES

— EXPLANATION —

- ○ WELL WITH HAND PUMP, BUCKET OR BAILER
- ⊹ WELL WITH WINDMILL OR SMALL POWER PUMP
- ◎ WELL WITH PUMPING PLANT — 5 HORSE POWER OR LARGER
- ● FLOWING WELL
- ◇ UNUSED WELL
- ⊹ WELL DRILLED TO TEST FOR OIL OR GAS
- (69) U. S. HIGHWAY
- (105) STATE HIGHWAY

—K—
10-29-42.