TEXAS BOARD OF WATER ENGINEERS

C. S. Clark, Chairman
A. H. Dunlap, Member
J. W. Pritchett, Member

HOPKINS COUNTY, TEXAS

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

MARCH 1943

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HOPKINS COUNTY, TEXAS

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

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Introduction

By

W. L. Broadhurst

This publication contains records of 103 wells and 2 springs, drillers' logs of 9 wells, summary descriptions of electrical logs of 2 wells, and results of chemical analyses of water from 70 wells in Hopkins County, Texas.

It also includes a map, showing the location of the wells, each well being given a number on the map corresponding to the number assigned to it in the records. The field data were obtained by W. L. Broadhurst in July and August 1942 in connection with a state-wide program of ground-water investigations in Texas conducted by the State Board of Water Engineers in cooperation with the United States Department of the Interior, Geological Survey.

The water analyses were made by W. W. Hastings, Chemist 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 14 to 16. For the convenience of those who prefer a different form of expression the analyses of 22 samples are given in milligram equivalents per liter on page 17.

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 and springs in Hopkins County, Texas
All wells are drilled unless otherwise stated under Remarks

Well	Distance from Sulphur Springs	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
1	15 miles west	R. P. Walker	-- Loudermilk	--	300	--	--
2	15 miles northwest	W. J. Ladd	--	1912	240	6	--
3	15½ miles northwest	W. D. Riley	Ben Wiggs	1929	236	5	0
4	do.	Mrs. J. H. Bulls	--	1912	204	3	--
5	14 miles northwest	-- Herman	--	--	175	12	1.0
6	14½ miles northwest	Curt Branom	Ben Wiggs	--	180	--	--
7	13½ miles northwest	W. J. Binion, Jr.	do.	Old	160	6	1.5
8	13 miles northwest	M. C. Craig	do.	1934	210	6	--
9	12½ miles northwest	Commerce Oil Mill	do.	1920	177	8	--
10	12 miles northwest	W. T. Peek	do.	Old	250	6	--
11	11 miles northwest	Richard Patterson	E. A. Dreeben et. al.	1924	3,217	--	--
12	10½ miles northwest	R. O. Davis	R. L. Carpenter	1909	77	6	1.0
13	10 miles northwest	Mrs. Fannie Smith	-- Young	1910	97	6	1.0
14	7½ miles northwest	B. and T. Hardaway	V. H. Hughes and Co.	1937	5,013	--	--
15	8 miles northwest	W. T. Hardaway et. al.	C. H. McCready	1920	948	--	--
16	10½ miles northwest	R. A. Cundiff	Jacob Lindley	1904	375	--	--
17	9½ miles north	S. M. Long	Talco Asphalt and Refining Co.	1941	4,857	--	--
18	do.	J. D. Crisp	do.	1942	4,842	--	--
19	8 miles north	John Arnold	--	Old	68	6	3.0
20	do.	G. W. Ledford	-- Hager	1933	180	--	--
21	9 miles northeast	Stinson Hargraves	--	1933	99	6	1.0
22	10½ miles northeast	A. B. Spencer	Houston and Thompson Inc.	1937	4,805	--	--
23	23½ miles north	J. S. Simpdy	--	1913	117	6	--
24	14½ miles north	Mary Chapman	L. A. Rankin et. al.	1941	--	--	--

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

Chemical analyses of water from most of these wells and springs are shown in a table of analyses on pages 14 to 17.

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
1	--	--	None	N	Abandoned.
2	--	--	C	N	
3	44.29	July 27, 1942	C,W	D,S	Temperature 68° F.
4	d/36	--	C,W	D,S	Large supply reported.
5	5.27	July 28, 1942	B.H	D	Oil test. Water used during drought. Temperature 67° F.
6	--	--	C,H	D,S	Temperature 70° F.
7	13.90	July 27, 1942	C,H	S	Large supply reported. Temperature 68° F.
8	--	--	C,H	D,S	Temperature 71° F.
9	--	--	C,S	Ind	Formerly supplied two gins.
10	--	--	C,W	D,S	
11	--	--	--	--	Oil test. See log.
12	47.95	July 28, 1942	B,H	S	Temperature 68° F.
13	14.68	do.	None	N	Temperature 67° F.
14	--	--	--	--	Oil test. See log.
15	--	--	--	--	Oil test. Reported to have flowed when drilled. Abandoned. See log.
16	--	--	None	N	Abandoned.
17	--	--	--	--	Oil test. Electrical log in files of Texas Board of Water Engineers shows a
18	--	--	--	--	Do. sandy zone between 600 and 700 feet.
19	40.55	Aug. 5, 1942	None	N	Temperature 70° F.
20	--	--	--	--	Reported to have flowed when drilled. Abandoned.
21	42.40	July 16, 1942	None	N	
22	--	--	--	--	Oil test. See log.
23	d/80	--	C,H	D,S	Sand reported from 95 to 100 feet. Temperature 68° F.
24	--	--	--	--	Oil test.

c/ D, domestic; Ind, industria;; P, public supply; S, stock; N, not used.
d/ Water level reported by driller or owner.

Records of wells and springs in Hopkins County--Continued

Well	Distance from Sulphur Springs	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well	Height of measuring point above ground (ft.)
25	19 miles northeast	United States Government	--	1934	65	42	2.5
26	do.	Lee Peyton	--	1920	33	42	0.5
27	18½ miles northeast	K. H. Hare	K. H. Hare	1932	24	42	1.0
28	17 miles northeast	A. A. Bassham	F. D. Jones	1937	3,170	--	--
29	do.	do.	do.	1939	825	6	--
30	do.	H. J. Smith	Big State Oil Co.	1936	4,519	--	--
31	14 miles northeast	R. A. Logan	Hager and Ashby	1933	860	--	1.5
32	15 miles northeast	George Prim	--	Old	36	42	2.5
33	13½ miles northeast	Fred Tubb	--	Old	28	36	5.0
34	11½ miles northeast	E. Voss	E. H. Reeves	1935	18	36	2.0
35	13 miles northeast	W. P. Stevenson	--	1890	17	36	2.5
36	7 miles east	-- Mitchell	--	--	3,430	--	--
37	4½ miles east	Will Jones	--	1922	3,000±	--	0-
38	In Sulphur Springs	Carnation Co.	--	--	40	240	0
39	do.	do.	--	--	40	192	0
40	do.	do.	--	--	40	360	0
41	do.	do.	Layne-Texas Co.	--	1,500	--	--
42	do.	City of Sulphur Springs	--	1898	1,000	--	--
43	do.	do.	--	1898	1,200	--	--
44	do.	Sulphur Springs Laundry	--	1936	16	192	0
45	do.	Coca Cola Bottling Co.	--	1907	14	192	0
46	1 mile west	City of Sulphur Springs	Dearing and Sons	1906	--	--	--
47	3¾ miles southwest	W. W. Frcneberger	--	Old	12	36	2.0
48	5½ miles southwest	--	--	1935	16	24	2.5
49	6 miles southwest	W. E. Christian	--	1903	109	6	2.5
50	5½ miles southwest	D. R. Hurley	A. B. Moore	1936	75	6	2.5

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
25	63.02	July 22, 1942	B,H	D	Dug. Temperature 66° F.
26	12.30	do.	B,H	D,S	Do.
27	10.33	do.	B,H	S	Dug. Temperature 70° F.
28	--	--	--	--	Oil test. See log.
29	--	--	--	--	Sand reported from 729 to 825 feet. Salt-water disposal well.
30	--	--	--	--	Oil test. See log.
31	+d/	July 22, 1942	Flows	S	Oil test. Large flow of salty water reported.
32	23.50	do.	B,H	N	Dug. Temperature 64° F.
33	27.82	do.	None	N	Dug. Temperature 65° F.
34	8.97	do.	B,H	D	Dug. Temperature 71° F.
35	12.50	do.	B,H	D,S	Dug. Temperature 70° F.
36	--	--	--	--	Oil test. See log.
37	+	July 22, 1942	Flows	N	Oil test. Flow $\frac{1}{4}$ gallon a minute of salty water. Temperature 72° F.
38	20.0	July 17, 1942	Cf,E, $7\frac{1}{2}$	Ind	Dug.
39	20.0	do.	Cf,E, 5	Ind	Do.
40	20.0	do.	Cf,E, 5	Ind	Dug. Wells 38, 39 and 40 have combined yield of 25,000 to 30,000 gallons a day.
41	--	--	None	N	Test well. No important water sand encountered.
42	--	--	None	N	Do.
43	--	--	None	N	Do.
44	d/5	July 17, 1942	S	Ind	Dug. Reported yield 60,000 gallons a day.
45	d/6.0	do.	Cf,E	Ind	Dug.
46	--	--	None	N	Test well. Sand with very little water reported between 800 and 900 feet. Aban-
47	6.60	July 30, 1942	B,H	D,S	Dug. Temperature $72\frac{1}{2}$° F. doned.
48	12.90	do.	B,H	D	Dug. Temperature 67° F.
49	41.8	do.	B,H	S	Temperature 69° F.
50	21.50	July 29, 1942	B,H	S	Temperature 72° F.

Records of wells and springs in Hopkins County--Continued

Well	Distance from Sulphur Springs	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
51	8½ miles southwest	S. A. Easley	--	Old	32	6	2.0
52	10 miles southwest	Walter Cox	J. and B. English	1920	189	8	0
53	8½ miles southwest	D. P. Baumman	--	Old	43	6	1.0
54	9½ miles west	-- Baker	--	--	189	6	1.5
55	10 miles west	M. H. Cox	--	Old	99	6	1.5
56	11 miles west	Carrol D. Gillis	--	1936	4,475	--	--
57	In Cumby	City of Cumby	Robert Schultz	1924	710	8, 6	0
58	13 miles southwest	H. B. Bays	--	Old	79	11	3.0
59	12 miles southwest	Joe Pierce	--	Old	93	6	1.5
60	14 miles southwest	H. B. Bays	--	Old	126	6	1.5
61	do.	Lloyd Hall	--	1935	235	12	.5
62	15 miles southwest	R. S. Renshaw	--	Old	87	6	1.5
63	16 miles southwest	G. W. Haney	H. Moss	Old	85	6	1.0
64	15½ miles southwest	O. A. McRea	C. T. Braziel	1938	94	6	1.0
65	14½ miles southwest	D. L. Garrett	--	1898	142	6	1.5
66	11 miles southwest	Texas Highway Dept.	--	Old	15	24	3.5
67	10½ miles southwest	C. T. Braziel	C. T. Braziel	1935	137	6	1.5
68	7½ miles southwest	Charles Killberg	do.	1939	235	6	2.5
69	8 miles southwest	--	--	Old	23	30	1.5
70	6 miles southwest	-- Stribling	Ranchc Oil Co.	1942	4,612	--	--
71	8½ miles southwest	--	--	Old	16	36	3.0
72	9½ miles southwest	Hopkins County	--	--	Spring	--	0
73	10½ miles southwest	Marvin Mansell	--	Old	98	6	1.5
74	10 miles south	Seymore School	--	1937	35	30	2.5
75	7½ miles south	Union School	--	1890	35	30	3.0
76	4½ miles south	Shocks Chapel Church	A. B. Moore	1939	85	6	1.0

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
51	20.28	Aug. 3, 1942	B,H	D,S	
52	30.00	do.	C,G, 4	D,S	Original depth reported 280 feet.
53	29.40	July 29, 1942	B,H	D,S	Temperature 70° F.
54	65.69	do.	B,H	S	Temperature 69° F.
55	50.67	do.	None	N	
56	--	--	--	N	Oil test. See log.
57	d/90		T,E, 15	P	One joint casing perforated at bottom. Six stage,4-inch pump set at 480 feet. Reported yield 55 gallons a minute. Tem-
58	58.88	Aug. 4, 1942	B,H	S	Temperature 71° F. perature 77° F.
59	59.07	Aug. 3, 1942	B,H	S	Temperature 69° F.
60	48.96	do.	B,H	D,S	Temperature 68° F.
61	34.70	Aug. 4, 1942	None	N	Oil test. Water has been used for domestic purposes during droughts. Tem-
62	56.07	Aug. 3, 1942	B,H	D,S	Temperature 67° F. perature 63° F.
63	34.00	Aug. 4, 1942	B,H	D,S	Temperature 73° F.
64	59.28	do.	B,H	D,S	Temperature 69° F.
65	66.50	do.	B,H	D,S	Temperature 68° F.
66	5.50	July 30, 1942	B,H	P	Temperature 73° F.
67	52.63	do.	B,H	D	Sand reported from 133 to 137 feet. Temperature 67° F.
68	24.56	Aug. 4, 1942	None	N	Very weak supply reported.
69	23.90	July 30, 1942	B,H	D,S	Dug. Temperature 68° F.
70	--	--	--	--	Oil test. No important frost-water sands shown by electrical log starting at 183
71	9.33	July 24, 1942	B,H	D,S	Dug. feet, in files of Texas Board of Temperature 69° F. Water Engineers.
72	+	do.	Flows	D	Flow 2 gallons a minute. Temperature 68° F.
73	64.85	do.	B,H	D,S	Temperature 68° F.
74	30.60	do.	C,H	P	Dug. Temperature 68° F.
75	28.70	do.	C,H	P	Dug. Temperature 66° F.
76	34.03	do.	C,W	P	

Records of wells and springs in Hopkins County--Continued

Well	Distance from Sulphur Springs	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
77	2¾ miles southeast	G. C. Halbrook	A. B. Moore	1938	79	6	1.5
78	¼ miles southeast	H. G. Martin	--	Old	10	60	.5
79	do.	Jim S. Putman	--	1890	21	24	2.0
80	6½ miles east	J. M. Hall	--	Old	10	48	3.0
81	8½ miles east	Mrs. I. L. White	--	1907	83	6	2.5
82	7 miles east	Hopkins County	--	--	Spring	--	.0
83	7 miles southeast	Forest Academy School	--	1902	57	36	--
84	do.	W. T. Wilson	--	Old	18	48	.0
85	do.	Star Ridge School	--	Old	26	36	.5
86	9½ miles southeast	Hopkins County	--	1942	200	4	.0
87	12½ miles southeast	do.	--	1942	--	4	.0
88	do.	Dewey Coker	--	1933	172	10	1.5
89	15 miles southeast	D. Foster	--	Old	32	36	2.5
90	13½ miles southeast	Mrs. Henry Johnson	--	1939	68	36	2.0
91	12 miles southeast	H. E. Gardner	A. B. Moore	1942	61	6	2.5
92	11½ miles southeast	S. A. Welborn	Donnie Petroleum Co.	1942	4,500	--	--
93	do.	do.	A. B. Moore	1942	66	6	2.0
94	12 miles southeast	--	--	Old	102	6	2.0
95	In Como	City of Como	A. B. Moore	1926	229	6	.0
96	11½ miles east	--	--	Old	17	24	2.0
97	12½ miles east	Pine Forest School	--	Old	17	24	2.0
98	16 miles east	Chautauqua School	--	1914	22	36	.0

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
77	28.40	July 23, 1942	C,W	D	
78	4.80	do.	C,W	D	Dug. Temperature 76° F.
79	11.15	Aug. 6, 1942	B,H	D	Dug. Temperature 71° F.
80	6.65	do.	B,H	D,S	Dug. Temperature 73° F.
81	70.82	do.	B,H	D,S	Temperature 69° F.
82	+	do.	Flows	D	Flow ½ gallon a minute.
83	--	--	C,H	P	Temperature 67° F.
84	8.05	July 23, 1942	C,W	D,S	Temperature 68° F.
85	15.30	July 16, 1942	B,H	P	Temperature 65° F.
86	+	Aug. 6, 1942	Flows	N	Flow 5 gallons a minute.
87	+	do.	Flows	D	Flow 4 gallons a minute.
88	+	do.	Flows	D	Oil test. Flow 1-1/8 gallons a minute. Temperature 69° F.
89	25.52	July 23, 1942	Cf,E	D	Dug. Temperature 64° F.
90	50.63	do.	B,H	D,S	Dug. Temperature 65½° F.
91	45.15	do.	B,H	D	Temperature 70° F.
92	--	--	--	--	Oil test. Electrical log in files of Texas Board of Water Engineers starting at 200 feet, shows sand between 450 and 500 feet.
93	60.40	July 23, 1942	B,H	D,S	
94	27.80	July 20, 1942	B,H	D,S	Temperature 71° F.
95	58.79	July 21, 1942	A,E, 10	P	Casing perforated from 149 to 229 feet. Measured depth 181 feet. Yield 10 gallons a minute with drawdown of 7 feet after pumping 6 hours. Temp. 70°F. See log.
96	8.82	Aug. 6, 1942	B,H	D	Temperature 71° F.
97	7.93	July 17, 1942	B,H	P	Dug. Temperature 76° F.
98	16.40	do.	C,H	P	Dug. Temperature 68° F.

Records of wells and springs in Hopkins County--Continued

Well	Distance from Sulphur Springs	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Height of measuring point above ground (ft.)
99	17 miles east	N. M. Gamblin	--	1940	65	6	--
100	14½ miles southeast	Pickton School	--	--	21	48	1.0
101	15½ miles southeast	Mrs. George Brown	--	Old	25	36	3.0
102	18 miles southeast	C. E. Davis	--	1936	30	30	2.0
103	20 miles southeast	O. P. Gorman	--	1940	16	36	--

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

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

Well	Water level: Below measuring point (ft.) a/	Water level: Date of measurement	Method of lift b/	Use of water c/	Remarks
99	--	--	C,H	D,S	Temperature 68° F.
100	3.40	July 20, 1942	Cf,E, 1	P	
101	14.55	do.	B,H	D,S	Temperature 67° F.
102	16.40	do.	Cf,E, 1/4	D	
103	--	--	Cf,E, 1/4	D,S	

c/ D, domestic; Ind, industrial; P, public supply; S, stock; N, not used.
d/ Water level reported by driller or owner.

Table of drillers' logs of wells in Hopkins County, Texas

	Thickness (feet)	Depth (feet)
Well 11, partial log		
Richard Patterson, 11 miles northwest of Sulphur Spring. Altitude 595 feet.		
Surface clay	15	15
Brown shale	11	26
Gray shale	14	40
Blue shale	117	157
Sand	4	161
Brown shale	334	495
Water sand	20	515
Shale and slate	55	570
Shale	15	585
Sandy lime	4	589
Water sand	14	603
Sandy lime	2	605
Lime	3	608
Shale and shells	153	761
Water sand	49	810
Shell	2	812
Gumbo	8	820
Sandy shale	24	844
Sand	5	849
Sandy shale	36	885
Shale, sandy shale and gumbo	521	1406
Chalk	139	1545
TOTAL DEPTH		3217
Well 14, partial log		
B. and T. Hardaway, 7⅕ miles northwest of Sulphur Springs.		
Clay	70	70
Shale and boulders	559	629
Sand	41	670
Sandy shale	30	700
Shale, shells and boulders	500	1200
Shale	338	1538
Chalk	111	1649
Shale, shells	621	2270
Chalk	40	2310
TOTAL DEPTH		5013
Well 15		
W. T. Hardaway et. al. 8 miles northwest of Sulphur Springs.		
Clay	25	25
Shale	400	425
Sandy shale	80	505
Shale	46	551
Sandy shale	18	569
Lime, shells	2	571
Sand, dark water	17	588
Shale	32	620
Sand, water	15	635
Shale	55	690
Sand	15	705
Shale	15	720
Sand, water	5	725
Shell	3	728
Shale	128	856
Sand	6	862
Shale	58	920
Sandy shale	28	948
Well 22, partial log		
A. B. Spencer, 10½ miles northeast of Sulphur Springs.		
Surface clay	45	45
Sand and shale	205	250
Shale and shells	500	750
Sand	40	790
Shale and shells	50	840
Shale and sand streaks	60	900
Sand and shale, shells	360	1260
Sand	17	1277
Shale and shells	348	1625
Chalk	125	1750
Shale and shells	60	1810
Sand and sand streaks	156	1966
Shale and shells	504	2470
TOTAL DEPTH		4805
Well 28		
A. A. Bassham, 17 miles northeast of Sulphur Spring.		
Surface clay and shale	103	103
Shale and shells	652	755
Sand	15	770
Shale and shells	745	1515
Shale	42	1557
Chalk and gravel	118	1675
Shale and shells	805	2480
Hard shale	125	2605
Chalk	30	2635
Shale and shells	270	2905
Hard shale, streaks of lime	90	2995
Sandy shale	175	3170
Well 30, partial log		
H. J. Smith, 17 miles northeast of Sulphur Spring.		
Shale	650	650

(Continued on next page)

Table of drillers' logs of wells in Hopkins County--Continued

	Thickness (feet)	Depth (feet)
Well 30, partial log--Continued		
Lignite and shale	260	910
Shale and shells	590	1500
Chalk	110	1610
Shale and lime	250	1860
Sandy shale	90	1950
Shale, shells	150	2100
Sticky shale	170	2270
Shale and shells	250	2520
Chalk	65	2585
Shale	400	2985
TOTAL DEPTH		4519
Well 36, partial log		
-- Mitchell, 7 miles east of Sulphur Springs.		
Yellow clay	35	35
Blue shale	230	265
Hard gray lime	3	268
Shale and gumbo	654	922
Gray sand (salty water)	54	976
Sand and gumbo	52	1028
Gray sand (salty water)	20	1048
Shale and gumbo	5	1053
Gray sand	19	1072
Blue shale and gumbo	690	1762
Chalk and shale	128	1890
TOTAL DEPTH		3430
Well 56, partial log		
Carrol D. Gillis, 11 miles west of Sulphur Springs.		
Surface clay and sand	41	41
Shale and sand rock	64	105
Shale and shells	380	485
Shale, sand, lime and shells	490	975
Shale	190	1165
Gumbo, lime and shells	65	1230
Sticky shale and gypsum	295	1525
Sandy shale	257	1782
Chalk	93	1875
Shale and shells	374	2249
Gumbo	15	2264
Shale and shells	226	2490
TOTAL DEPTH		4475
Well 95		
City of Como, 9 miles southeast of Sulphur Springs. In Como.		
Surface material	47	47
Water sand	12	59
Coal	1	60
Shale	40	100
Coal	2	102
Shale	33	135
Packsand and streaks of shale	94	229

Partial analyses of water from wells and springs in Hopkins County, Texas

Analyzed at The University of Texas under the direction of F. 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.)
3	W. D. Riley	236	July 27, 1942	447	9.6	.2	172	366	52	28	.8	4.0	25
a/ 4	Mrs. J. H. Bulls	204	July 28, 1942	410	1.6	.2	162	329	55	23	.2	3.0	5
5	-- Herman	175	do.	2,710	146	55	720	537	1,168	357	-	0	594
6	Curt Branom	180	July 27, 1942	573	3.0	1.5	219	415	103	35	.9	3.0	26
7	J.T.Binion, Jr.	160	do.	850	6.4	3.9	330	586	117	102	-	3.0	32
a/ 8	M. C. Craig	125	do.	5,729	445	241	1,045	342	3,509	310	1.8	0	2,104
10	W. T. Peek	250	do.	1,112	3.6	.2	450	647	52	284	-	4.0	10
a/12	R. O. Davis	77	July 28, 1942	1,391	48	37	420	703	407	126	-	5.0	273
13	Mrs. Fanny Smith	97	do.	4,705	474	285	719	287	1,811	1,275	0	-	2,356
19	John Arnold	68	Aug. 5, 1942	2,485	200	104	475	500	924	265	-	270	929
23	J. H. Simpdy	117	do.	835	10	3.9	309	543	203	39	-	3.0	42
a/25	U. S. Government	65	July 22, 1942	2,194	460	54	170	427	1,005	244	1.0	0	1,373
26	Lee Peyton	33	do.	534	109	5.1	81	133	63	170	-	16	293
27	K. H. Hare	24	do.	1,608	137	14	382	311	562	160	1.1	199	398
32	George Prim	36	do.	995	62	16	292	195	130	395	-	4.0	220
a/33	Fred Tubb	28	do.	697	31	14	214	93	17	345	-	19	133
34	E. Voss	18	do.	-	-	-	-	116	26	9.0	-	6.0	-
35	W. P. Stevenson	17	do.	-	-	-	-	25	8	33	-	24	-
37	Will Jones	3,000±	do.	17,151	371	64	6,249	128	4	10,400	-	-	1,189
40	Carnation Co.	40	July 17, 1942	372	21	12	91	18	130	105	-	4.0	103
a/45	Coca Cola Bottling Co.	14	do.	65	8.8	5.1	8.1	49	15	3.0	-	1.0	43
47	W.W.Froneberger	12	July 30, 1942	129	8.4	4.1	35	55	23	30	.6	1.0	38
48	--	16	do.	1,280	55	321	389	256	333	362	.4	0	223
49	W. E. Christian	109	do.	2,780	200	30	543	659	1,201	151	.3	6.0	829
a/50	D. R. Hurley	75	July 29, 1942	4,744	446	285	640	342	3,049	153	1.6	1.0	2,236
51	S. A. Easley	32	Aug. 3, 1942	403	86	17	46	366	52	22	-	0	286
a/52	Walter Cox	139	Aug. 4, 1942	1,535	40	7.5	541	427	414	370	.8	2.0	130
53	D. F. Beaumman	43	July 29, 1942	793	94	42	161	720	85	54	-	3.0	406

a/ Analyses of water from selected wells and springs are given in milligram equivalents per liter on page 17.

Partial analyses of water from wells and springs in Hopkins County--Continued
Results are in parts per million

Well	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids (calc.)	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.)
54	-- Baker	189	July 29, 1942	2,187	43	14	790	348	148	1,020	.8	-	163
55	M. E. Cox	99	do.	631	28	7.5	193	305	111	64	.6	77	100
a/57	City of Cumby	710	do.	552	1.4	.4	220	472	41	38	.1	.0	5
58	H. B. Bays	79	Aug. 4, 1942	1,548	90	54	386	567	591	145	-	3.0	448
59	Joe Pierce	93	Aug. 3, 1942	2,821	132	52	769	183	1,201	575	0	2.0	542
a/60	H. B. Bays	126	do.	2,645	314	117	380	445	1,478	125	.5	11	1,267
a/61	Lloyd Hall	235	Aug. 4, 1942	2,434	137	64	553	604	1,201	130	.2	2.0	729
62	R. S. Renshaw	87	Aug. 3, 1942	2,550	97	31	717	183	1,349	260	-	3.0	369
63	G. W. Haney	85	Aug. 4, 1942	1,300	102	78	425	702	739	110	-	1.5	578
64	O. A. McRea	94	do.	2,550	109	29	743	214	998	560	0	6.0	393
65	D. L. Garrett	142	do.	2,067	89	31	638	201	370	840	.2	-	349
a/66	Texas Highway Dept.	15	July 30, 1942	57	2.0	1.5	19	49	6	4.0	-	0	11
67	C. T. Braziel	137	do.	1,013	209	41	69	183	429	168	-	7.0	690
69	--	23	do.	300	18	8.8	71	31	52	77	-	58	80
71	--	16	July 24, 1942	239	20	8.8	60	104	26	73	.2	0	85
a/72	Hopkins County	Spring	do.	177	8.8	2.4	55	116	12	19	.1	21	32
73	Marvin Hansell	98	do.	474	41	14	127	390	63	34	0	2.0	158
74	Seymour School	35	do.	649	92	28	108	220	92	215	.3	1.0	347
a/75	Union School	35	do.	133	27	6.3	12	123	3	6.0	.2	3.0	94
a/77	G. C. Halbrook	79	July 23, 1942	920	38	3.9	324	494	67	240	-	4.0	112
78	H. G. Martin	10	do.	-	-	-	-	31	5	10	-	0	-
a/79	Jim S. Putman	21	Aug. 6, 1942	373	9.2	6.3	135	348	33	13	.6	5.0	49
80	J. M. Hall	18	do.	70	6.4	2.7	16	31	3	20	-	7.0	27
81	Mrs.I.L.White	83	do.	853	23	5.1	312	275	3	375	-	0	78
a/82	Hopkins County	Spring	do.	95	10	1.5	27	98	8	.5	0	0	31
84	W. T. Wilson	18	July 23, 1942	48	6.0	1.5	11	43	5	2.0	-	1.0	21
a/85	Star Ridge School	26	July 17, 1942	939	101	65	160	37	5	590	.1	0	520
a/86	Hopkins County	200	Aug. 6, 1942	40	2.0	1.5	10	24	4	1.0	.2	9.5	11
87	do.	-	do.	150	11	6.3	38	104	24	19	.2	0	54
a/88	Dewey Coker	172	do.	174	4.4	2.7	65	165	2	19	-	0	22
89	D. Foster	32	July 23, 1942	532	34	11	141	79	81	175	-	51	132

a/ Analyses of water from selected wells and springs are given in milligram equivalents per liter on page 17.

Partial analyses of water from wells and springs in Hopkins County--Continued

Results are in parts per million

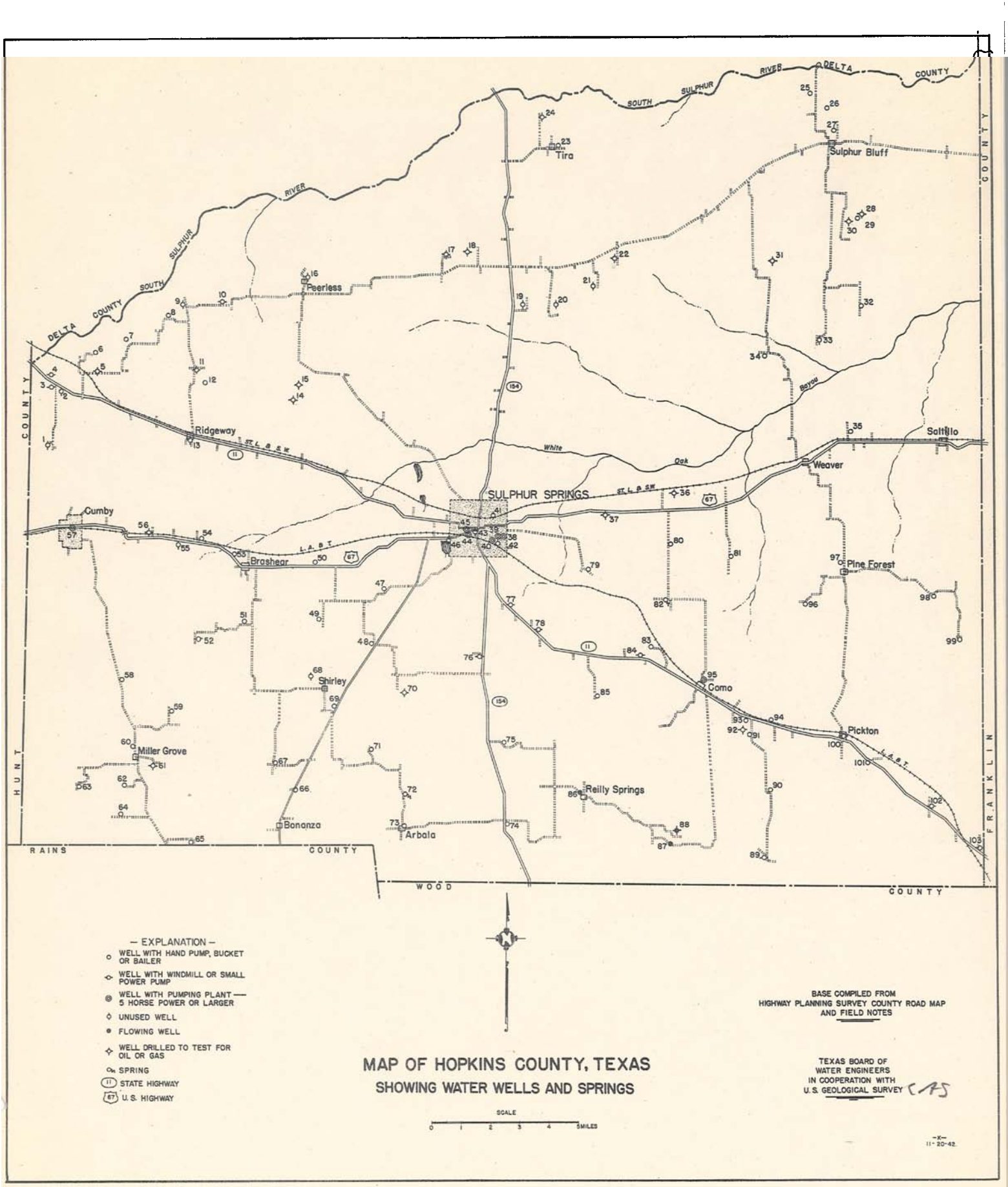
Well	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na + K) (calc.)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Total hardness as $CaCO_3$ (calc.)
90	Mrs. Henry Johnson	68	July 23, 1942	298	50	3.9	62	250	30	28	-	1.0	142
91	H. E. Gardner	61	do.	738	115	49	107	683	55	73	0	3.0	490
93	S. A. Welborn	66	do.	-	-	-	-	702	111	53	-	2.0	-
94	--	102	July 20, 1942	464	69	12	91	329	31	46	-	3.0	223
a/95	City of Como	229	July 23, 1942	280	24	9.4	45	130	53	25	.1	0	99
96	--	17	Aug. 6, 1942	62	8.0	1.5	14	43	5	8.0	.3	4.0	26
98	Chautauqua School	22	July 17, 1942	153	29	3.6	24	110	30	12	.1	0	37
a/100	Pickton School	21	July 20, 1942	524	14	20	164	231	33	150	1.8	0	117
101	Mrs. George Brown	25	do.	1,150	151	91	125	110	259	470	.2	0	751
102	C. E. Davis	30	do.	2,295	311	115	309	165	813	665	.7	-	1,251
103	O. P. Gorman	16	do.	131	6.4	3.9	36	37	30	32	-	5.0	32

a/ Analyses of water from selected wells and springs are given in milligram equivalents per liter on page 17.

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.)
4	Mrs. J. H. Bulls	204	July 23, 1942	.08	.02	7.17	5.40	1.155	.65	.01	.05	.10
8	M. C. Craig	125	July 27, 1942	22.26	19.82	45.45	5.60	73.10	8.74	.09	0	42.08
12	R. O. Davis	77	July 28, 1942	2.42	3.04	18.24	11.60	8.47	3.55	-	.08	5.46
25	U. S. Government	65	July 22, 1942	23.02	4.44	7.41	7.00	20.944	6.88	.05	0	27.46
33	Fred Tubb	28	do.	1.54	1.12	9.31	1.50	.35	9.73	-	.29	2.66
45	Coca Cola Bottling Co.	14	July 17, 1942	.44	.42	.35	.50	.31	.08	-	.02	.86
50	R. D. Hurley	75	July 29, 1942	22.23	23.44	27.83	5.60	63.525	4.32	.08	.02	45.72
52	Walter Cox	189	Aug. 4, 1942	1.98	.62	23.53	7.00	8.624	10.44	.04	.03	2.60
57	City of Cumby	710	July 29, 1942	.07	.03	9.57	7.74	.35	1.07	.01	0	.10
60	H. B. Bays	126	Aug. 3, 1942	15.68	9.66	16.50	7.30	30.80	3.53	.03	.18	25.34
61	Lloyd Hall	235	Aug. 4, 1942	9.34	5.24	24.06	9.90	25.025	3.67	.01	.03	14.58
65	Texas Highway Dept.	15	July 30, 1942	.10	.12	.81	.30	.12	.11	-	0	.22
72	Hopkins County	Spring	July 24, 1942	.44	.20	2.40	1.90	.25	.54	.01	.34	.64
75	Union School	35	do.	1.36	.52	.51	2.10	.06	.17	.01	.05	1.88
77	G. C. Holbrook	79	July 23, 1942	1.92	.32	14.08	3.10	1.336	6.77	-	.06	2.24
79	Jim S. Putman	21	Aug. 6, 1942	.46	.52	5.89	5.70	.693	.37	.03	.03	.93
82	Hopkins County	Spring	do.	.50	.12	1.15	1.60	.17	.01	0	0	.62
85	Star Ridge School	26	July 17, 1942	5.04	5.36	6.95	.60	.10	16.64	.01	0	10.40
86	Hopkins County	200	Aug. 6, 1942	.10	.12	.45	.40	.08	.03	.01	.15	.22
88	Dewey Coker	172	do.	.22	.22	2.84	2.70	.04	.54	-	0	.44
95	City of Como	229	July 23, 1942	1.193	.773	1.973	2.131	1.103	.705	.005	.000	1.971
100	Pickton School	21	July 20, 1942	.72	1.62	7.27	4.60	.693	4.23	.09	0	2.34



— EXPLANATION —

- WELL WITH HAND PUMP, BUCKET OR BAILER
- WELL WITH WINDMILL OR SMALL POWER PUMP
- WELL WITH PUMPING PLANT — 5 HORSE POWER OR LARGER
- UNUSED WELL
- FLOWING WELL
- WELL DRILLED TO TEST FOR OIL OR GAS
- SPRING
- (11) STATE HIGHWAY
- (67) U.S. HIGHWAY

MAP OF HOPKINS COUNTY, TEXAS

SHOWING WATER WELLS AND SPRINGS

SCALE

0 1 2 3 4 5 MILES

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

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

-K-
11-20-42