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STATE BOARD OF WATER ENGINEERS

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MONTGOMERY COUNTY, TEXAS

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

* * *

by

Penn Livingston

Mimeographed by

WORKS PROGRESS ADMINISTRATION

PROJECT 10443

* * *

Prepared in cooperation with the United States
Department of the Interior, Geological Survey.

* * *

Austin, Texas
April 10, 1939

MONTGOMERY COUNTY, TEXAS

* * *

Introduction

by

Samuel F. Turner

Associate Hydraulic Engineer

United States Department of the Interior

Geological Survey

This pamphlet contains records of wells in Montgomery County, Texas, with tables of well logs, well water analyses, and a map which shows all the wells described, each well having a number on the map corresponding to the number assigned to it in the well tables.

The records were obtained in the course of an investigation which was undertaken as part of a statewide study of the underground water resources of Texas. The investigation was made by the State Board of Water Engineers, in cooperation with the U. S. Department of the Interior, Geological Survey. The field work was carried out by Penn Livingston of the Geological Survey. The analyses were made in the laboratory of the Geological Survey at Washington by Margaret D. Foster. The field tests were made in Houston by Samuel F. Turner.

The well records serve as a guide to land owners and well drillers who may need information regarding wells and pumping plants, the depth to ground water in different parts of the county and the quantity and quality of water yielded by wells. They afford a basis for the more intensive investigation which is now being carried on.

These records were typed, assembled, and mimeographed by employees of Works Progress Administration Project 10443, which is sponsored by the Texas Board of Water Engineers in cooperation with the Geological Survey.

Records of wells in Montgomery County, Texas
 (All wells are drilled unless otherwise noted in "Remarks" column.)
 (Principal water-bearing beds are sand or gravel.)

| No. | Distance from Conroe | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Principal water-bearing bed | |
|-------|--------------------------|------------------------------|---------------------------|----------------|---------------------|------------------------|-----------------------------|-----------------|
| | | | | | | | Depth to top of bed (ft.) | Thickness (ft.) |
| 1 | 20½ miles west northwest | Trinity & Brazos Valley R.R. | -- | -- | 164 | 12 | 68 146 | 18 18 |
| d/ 2 | 19½ miles west northwest | Stinson Est. | -- | -- | 2,400+ | 6 | -- | -- |
| 3 | 19 miles west | Gulf Coast & Santa Fe R.R. | W. J. Giles | 1913 | 746 | 8 | 520 695 | 40 51 |
| 4 | 18½ miles west northwest | The Texas Co. | Layne-Texas Co. | 1907 | 109 | 9- 5/8 | 75 | 4 |
| 5 | do. | do. | do. | 1907 | 440 | 9- 5/8 | 190 237 | 35 23 |
| 6 | 12 miles northwest | J. H. Hall Well 2 | Sprague Oil Co. | 1924 | 4,316 | -- | 410 | 30 |
| 7 | 8½ miles north | -- Shawver Well 1 | Montgomery County Oil Co. | 1924 | 3,515 | -- | -- | -- |
| d/ 8 | 7 miles north | F. W. Shawver | -- | -- | 45 | 36 | -- | -- |
| 9 | 6½ miles north | State Highway | -- | 1931 | 27 | -- | -- | -- |
| 10 | 6 miles north | -- Qualine | -- | -- | 20 | 36 | -- | -- |
| 11 | 5¼ miles north | State Highway | -- | 1931 | 13 | 3 | 7 | 6 |
| 12 | 4¾ miles north | -- | -- | -- | 34 | 6 | -- | -- |
| 13 | 3¼ miles north northwest | -- | -- | -- | 30 | 6 | -- | -- |
| 14 | 3 miles north | W. B. Wood | -- | 1931 | 25 | 3 | 20 | 5 |
| d/ 15 | 2½ miles north | Highway Spring | -- | -- | -- | -- | -- | -- |
| 16 | 2¼ miles north | -- Hicks | -- | -- | 20 | 6 | -- | -- |
| 17 | 1¾ miles north | State Highway | -- | 1931 | 29 | 3 | 26 | 3 |
| 18 | 1½ miles north | J. R. Grant | -- | -- | 26 | 6 | -- | -- |
| 19 | ¾ mile north | L. S. Ross | -- | -- | 37 | 30 | -- | -- |
| 20 | At Conroe | State Highway | -- | 1931 | 20 | 3 | -- | -- |
| 21 | do. | Gulf Coast & Santa Fe R.R. | R. C. Davant | 1917 | 1,282 | 8 | 1,087 1,192 | 24 84 |
| 22 | do. | City of Conroe | C. G. Hamil | 1909 | 1,464 | 8 | 1,080 | 150 |

a/ Bench mark is point from which water-level measurement was made and was usually top of casing, top of pump base, or top of water pipe clamp.

b/ A, air; J, jack; F, artesian flow; B, bucket; E, electric motor; G, gasoline engine; O, oil engine; H, hand.

Records obtained by Penn Livingston and Samuel F. Turner
 (See "Table of field tests" for tests of hardness, chloride and sulphate.)

| No. | Height of bench mark above (+) ground (ft.) a/ | Water level | | Pump and kind and amount of power b/ | Use of water c/ | Remarks |
|-----|--|------------------------|---------------------|--------------------------------------|-----------------|---|
| | | Below bench mark (ft.) | Date of measurement | | | |
| 1 | -- | -- | -- | -- | RR | Casing; 86 feet of 12-inch and 78 feet of 8-inch. Screens set at 68 to 86 and 146 |
| 2 | -- | -- | -- | F,J,G, 5 | D,S | Temperature 93° F. Estimated yield, 25 gallons a minute, April 14, 1931. to 164 feet. |
| 3 | -- | -- | -- | -- | RR | Casing; 582 feet of 8-inch and 184 feet of 6-inch. Screens set at 517 to 559 and 704 to 746 feet. |
| 4 | -- | -- | -- | -- | Ind | Casing; 85 feet of 9 5/8-inch. Screen set at 71 to 85 feet. |
| 5 | -- | -- | -- | -- | Ind | Casing; 440 feet of 9 5/8-inch. Screens set at 190 to 225, 297 to 309 and 427 to |
| 6 | -- | -- | -- | -- | -- | Oil test, see driller's log. 440 feet. |
| 7 | -- | -- | -- | -- | -- | Do. |
| 8 | 0 | 43.8 | Nov. 13, 1931 | J,E | D,S | Dug well. |
| 9 | 0 | 26.9 | Dec. 22, 1931 | None | N | Test well drilled by Geological Survey. |
| 10 | -- | -- | -- | B,H | N | Dug well. Automatic water-stage recorder was maintained on this well for several months. |
| 11 | 1/2 | 7.4 | Nov. 17, 1931 | None | N | Test well drilled by Geological Survey. |
| 12 | 2 | 31.2 | Nov. 11, 1931 | B,H | D,S | Dug well. |
| 13 | 2 | 29.5 | Nov. 16, 1931 | None | N | Do. |
| 14 | 1/2 | 21.7 | Nov. 17, 1931 | None | N | Test well drilled by Geological Survey. |
| 15 | -- | -- | -- | -- | N | Seep spring at contact between sand and clay. |
| 16 | 3 | 19.0 | Nov. 13, 1931 | None | N | Dug well. |
| 17 | 1/2 | 28.3 | Nov. 14, 1931 | None | N | Test well drilled by Geological Survey. |
| 18 | 2 | 15.9 | Nov. 13, 1931 | None | N | |
| 19 | 2 | 35.2 | do. | B,H | D,S | |
| 20 | 1 | 5.1 | Nov. 25, 1931 | None | N | Test well drilled by Geological Survey. |
| 21 | 2 | -0.3 | June 3, 1931 | A,- | RR | Casing; 1,171 feet of 8-inch and 111 feet of 6-inch. Screens set at 1,070 to 1,170 |
| 22 | 2 | 1.4 | do. | None | N | Casing; 185 and 1,202 to 1,282 feet. feet of 8 1/2-inch, and 6-inch set to bottom. Screen set at 1,125 to 1,272 feet. |

c/ P, public; Ind, industrial; RR, railroad; D, domestic; S, stock; N, not used.

d/ See "Table of field tests" for tests of hardness, chloride and sulphate in water from this well.

Records of wells in Montgomery County--Continued

| No. | Distance from Conroe | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Principal water-bearing bed | |
|-------|--------------------------------------|--------------------------------|------------------------------|----------------|---------------------|------------------------|-----------------------------|-----------------|
| | | | | | | | Depth to top of bed (ft.) | Thickness (ft.) |
| d/ 23 | At Conroe | City of Conroe | Layne-Texas Co. | 1924 | 1,221 | 8 | 1,060 1,186 | 106 35 |
| d/ 24 | do. | do. | -- | -- | 205 | 6 | -- | -- |
| 25 | do. | do. | -- | -- | 205 | 6 | -- | -- |
| 26 | 2 miles northeast | J. H. Bennett | -- | 1926 | 50 | 36 | -- | -- |
| 27 | $\frac{1}{2}$ mile south | -- Heath | -- | 1903 | 57 | 8 | -- | -- |
| 28 | $\frac{3}{4}$ mile southwest | Delta Land & Timber Co. | Layne-Texas Co. | 1914 | 1,172 | 14 | 1,050 1,111 | 41 41 |
| 29 | $1\frac{1}{4}$ miles south | Brown Est. | -- | -- | 25 | 48 | -- | -- |
| d/ 30 | $1\frac{1}{2}$ miles south | L. Johnson | -- | -- | 33 | 48 | -- | -- |
| d/ 31 | $1\frac{3}{4}$ miles south | Hogg Bros. | -- | 1931 | 13 | 3 | 12 | 1 |
| 32 | 3 miles south | -- | -- | 1931 | 13 | 3 | 10 | 3 |
| d/ 33 | $4\frac{1}{4}$ miles south | C. Johnson | -- | -- | 60+ | 4 | -- | -- |
| d/ 34 | do. | do. | -- | -- | 160+ | 5 | -- | -- |
| d/ 35 | $4\frac{3}{4}$ miles south | W. T. Peoples | Charlie Smith | 1928 | 385+ | 3 | -- | -- |
| 36 | 5 miles south | J. T. Peoples | -- | -- | 10 | 48 | -- | -- |
| d/ 37 | $3\frac{1}{2}$ miles east | J. Youens | -- | 1932 | 47 | 36 | -- | -- |
| d/ 38 | $3\frac{1}{2}$ miles southeast | Mother's Place | -- | 1932 | 45 | 48 | -- | -- |
| 39 | 11 miles east northeast | H. W. McMaster Well 2 | McMaster Oil Co. | 1919 | 3,825 | -- | -- | -- |
| d/ 40 | $20\frac{1}{2}$ miles west southwest | J. H. Rodgeson | Mike Lee | 1918 | 110 | 2 | -- | -- |
| d/ 41 | 19 miles west southwest | I. & G. N. R.R. | McMasters & Pomeroy | -- | 1,452 | 10 | 1,307 | 30 |
| 42 | 10 miles southwest | -- Chase Well 1 | Cullen & West Production Co. | 1929 | 3,516 | -- | -- | -- |
| 43 | 6 miles south | Pierce-Fordyce Oil Association | Layne-Texas Co. | 1916 | 3,706 | -- | -- | -- |
| 44 | 8 miles south | -- | -- | 1931 | 30 | 3 | 22 | 8 |
| d/ 45 | $8\frac{1}{2}$ miles south | Blair Store | -- | -- | 21 | 24 | -- | -- |
| 46 | 9 miles south | E. W. Castleschouldt | -- | -- | 35 | 24 | -- | -- |
| d/ 47 | do. | L. A. Smith | -- | 1907 | 900+ | 4 | -- | -- |
| d/ 48 | do. | Thomas Falvey | -- | 1906 | 1,800 | 8 | 1,540 | 40 |
| d/ 49 | 9 miles south southeast | T. J. Harper | -- | -- | -- | 6 | -- | -- |

Penn Livingston and Samuel F. Turner

| No. | Height of bench mark above (+) ground (ft.) a/ | Water level | | Pump and kind and amount of power b/ | Use of water c/ | Remarks |
|-----|--|------------------------|---------------------|--------------------------------------|-----------------|--|
| | | Below bench mark (ft.) | Date of measurement | | | |
| 23 | -- | -- | -- | A | P | Casing; 1,221 feet of 8-inch. Screens set at 1,099 to 1,163 and 1,185 to 1,221 feet. |
| 24 | -- | -- | -- | A | P | |
| 25 | -- | -- | -- | A,E | N | |
| 26 | 3 | 12.6 | Nov. 17, 1931 | None | N | Dug well. |
| 27 | -- | -- | -- | None | N | An automatic water-stage recorder was maintained on this well for several |
| 28 | -- | -- | -- | A,- | Ind | Casing; 950 feet of 10-inch and 6-inch to bottom. Screen set at 1,028 months. |
| 29 | 2 $\frac{1}{2}$ | 27.0 | Nov. 18, 1931 | B,H | S | Dug well. to 1,148 feet. |
| 30 | 0 | 26.2 | June 3, 1931 | B,H | D,S | Do. |
| 31 | $\frac{1}{2}$ | 9.8 | Nov. 13, 1931 | None | N | Test well drilled by Geological Survey. |
| 32 | $\frac{1}{2}$ | 11.4 | Nov. 12, 1931 | None | N | Do. |
| 33 | 4 | 9.9 | Nov. 18, 1931 | None | N | |
| 34 | -- | + | -- | None | N | Flows about 1 gallon in 24 hours. |
| 35 | 3 | + | -- | F | P,D,S | Temperature 73° F. Estimated yield 5 gallons a minute, June 3, 1931. |
| 36 | 2 $\frac{1}{2}$ | 6.3 | June 3, 1931 | B,H | S | Dug well. |
| 37 | 3 | 45 | Aug. 24, 1932 | B,H | D,S | Do. |
| 38 | 3 | 42 | do. | B,H | D,S | Do. |
| 39 | -- | -- | -- | -- | -- | Oil test, see driller's log. |
| 40 | -- | -- | -- | J,H | D,S | |
| 41 | -- | -- | -- | J,C, -- | RR, D,S | Casing; 1,307 feet of 10 and 8-inch, and 143 feet of 6-inch. Screen set from |
| 42 | -- | -- | -- | -- | -- | Oil test, see 1,307 to 1,389 feet, driller's log. |
| 43 | -- | -- | -- | -- | -- | Do. |
| 44 | $\frac{1}{2}$ | 27.3 | Nov. 10, 1931 | None | N | Test well drilled by Geological Survey. |
| 45 | 2 | 17.3 | June 2, 1931 | B,H | D,S,P | Dug well. |
| 46 | 2 | 31.8 | do. | B,H | D | Do. |
| 47 | 2 | + | do. | F | D | Estimated yield, $\frac{1}{2}$ gallon a minute, June 2, 1931. |
| 48 | 15 | + | do. | F | D,P | Casing; 80 feet of 4-inch and 4-inch drill stem to bottom. |
| 49 | 2 | + | do. | F | D | Estimated yield 10 gallons a minute, June 2, 1931. |

Records of wells in Montgomery County--Continued

| No. | Distance from Conroe | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Principal water-bearing bed | |
|-------|------------------------------|------------------------|---------------------------|----------------|---------------------|------------------------|-----------------------------|-----------------|
| | | | | | | | Depth to top of bed (ft.) | Thickness (ft.) |
| d/ 50 | 10 miles south | Grogan's Mill | -- | -- | 173+ | 6 | -- | -- |
| 51 | 10 $\frac{1}{2}$ miles south | -- | -- | 1931 | 21 | 3 | 18 | 3 |
| 52 | 11 miles south | Sam Ashe School | -- | -- | 50 | 30 | -- | -- |
| 53 | 12 $\frac{1}{2}$ miles south | H. T. Temple | -- | -- | 25 | 48 | -- | -- |
| d/ 54 | 13 $\frac{1}{2}$ miles south | C. L. Fitch | Brains et al | 1927 | 2,285 | 4 | -- | -- |
| 55 | 17 miles east southeast | Wight-Schaedler Well 1 | Black Hawk Oil Co. | 1920 | 4,598 | -- | -- | -- |
| 56 | 20 miles southeast | J. W. Reynolds Well 1 | Rucker Oil & Refining Co. | 1922 | 992 | -- | -- | -- |

a/ Bench mark is point from which water-level measurement was made and was usually top of casing, top of pump base, or top of water pipe clamp.

b/ A, air; J, jack; F, artesian flow; B, bucket; E, electric motor; G, gasoline engine; O, oil engine; H, hand.

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| No. | Height of bench mark above (+) ground (ft.) a/ | Water level | | Pump and kind and amount of power b/ | Use of water c/ | Remarks |
|-----|--|------------------------|----------------------|--------------------------------------|-----------------|--|
| | | Below bench mark (ft.) | Date of measure-ment | | | |
| 50 | 1 | 24.2 | June 2, 1931 | J,H | D,S | |
| 51 | $\frac{1}{2}$ | 18.2 | Nov. 12, 1931 | None | N | Test well drilled by Geological Survey. |
| 52 | 3 | 30.6 | June 2, 1931 | B,H | P | Dug well. |
| 53 | 2 | 27.9 | Nov. 8, 1931 | B,H | D,S | Do. |
| 54 | $2\frac{1}{2}$ | + | -- | F | D,S | Yield 9.5 gallons a minute, June 1, 1931. Oil test, see driller's log. |
| 55 | -- | -- | -- | -- | -- | Oil test, see driller's log. |
| 56 | -- | -- | -- | -- | -- | Do. |

c/ P, Public; Ind, industrial; RR, railroad; D, domestic; S, stock; N, not used.

d/ See "Table of field tests" for tests of hardness, chloride and sulphate in water from this well.

Records of field tests of samples from wells in Montgomery County, Texas
 (Analyzed by Samuel F. Turner. Parts per million. For records
 of wells see corresponding numbers in well tables.)

| Well No. | Owner | Date of collection | Depth of well (ft.) | Hardness as CaCO ₃ a/ | Chloride (Cl) | Sulphate (SO ₄) b/ |
|----------|------------------|--------------------|---------------------|----------------------------------|---------------|--------------------------------|
| 2 | Stinson Est. | - | 2,400± | 80 | 220 | 10 |
| 8 | F. W. Shawver | Nov. 13, 1931 | 45 | 65 | 16 | 1 |
| 15 | Highway Spring | - | - | 40 | 15 | 15 |
| 23 | City of Conroe | - | 1,221 | 110 | 60 | 40 |
| 24 | do. | - | 205 | 35 | 30 | 5 |
| 30 | L. Johnson | June 3, 1931 | 33 | 40 | 30 | 10 |
| 31 | Hogg Bros. | Nov. 13, 1931 | 13 | 140 | 80 | 15 |
| 33 | C. Johnson | Nov. 18, 1931 | 60+ | 150 | 50 | 10 |
| 34 | do. | - | 160± | 100 | 55 | 5 |
| 35 | W. T. Peoples | - | 385± | 110 | 35 | 10 |
| 37 | J. Youens | Aug. 24, 1932 | 47 | 900 | 1,000 | 50 |
| 38 | Mother's Place | do. | 45 | 20 | 15 | 2 |
| 40 | J. H. Rodgeson | - | 110 | 45 | 65 | 10 |
| 41 | I. & G. N. R. R. | - | 1,452 | 25 | 30 | 15 |
| 45 | Blair Store | June 2, 1931 | 21 | 40 | 30 | 30 |
| 47 | L. A. Smith | do. | 900± | 100 | 65 | 10 |
| 48 | Thomas Falvey | do. | 1,800 | 30 | 60 | 50 |
| 49 | T. J. Harper | do. | - | 110 | 60 | 40 |
| 50 | Grogan's Mill | do. | 173± | 100 | 40 | 10 |
| 54 | C. L. Fitch | - | 2,285 | 150 | 60 | 10 |

a/ Hardness as calcium carbonate by the soap method.

b/ Sulphate by turbidity method and may be as much as 25 per cent in error.

Table of Drillers' Logs, Montgomery County, Texas

| | Thickness (feet) | Depth (feet) |
|---|---------------------|-----------------|
| <u>Driller's log of well 3</u> | | |
| Gulf Coast and Santa Fe Railroad, Owner | | |
| Black dirt - - - | 6 | 6 |
| Yellow clay - - - | 6 | 12 |
| Sand, shale and gravel - - | 10 | 22 |
| White lime rock - - - | 2 | 24 |
| Brown clay - - - | 4 | 28 |
| White lime rock - - - | 2 | 30 |
| Brown clay - - - | 2 | 32 |
| White lime rock - - - | 3 | 35 |
| Brown and white clay - - | 20 | 55 |
| White lime rock - - - | 3 | 58 |
| Gray clay - - - | 40 | 98 |
| Brown sand - - - | 16 | 114 |
| Gray gumbo - - - | 51 | 165 |
| White lime rock - - - | 3 | 168 |
| Gray clay - - - | 20 | 188 |
| Gray gumbo - - - | 12 | 200 |
| Red shale - - - | 12 | 212 |
| Brown gumbo - - - | 34 | 246 |
| Blue packed sand - - - | 31 | 277 |
| Hard blue shale - - - | 13 | 290 |
| White lime rock - - - | 21 | 311 |
| Blue packed sand - - - | 23 | 334 |
| White lime rock - - - | 6 | 340 |
| Blue sand and shale - - | 34 | 374 |
| Blue gumbo - - - | 23 | 397 |
| Blue shale and sand - - | 14 | 411 |
| White lime rock - - - | 8 | 419 |
| Blue sand and shale - - | 25 | 444 |
| Hard blue shale - - - | 33 | 477 |
| Blue gumbo - - - | 28 | 505 |
| White lime rock - - - | 2 | 507 |
| Blue gumbo - - - | 13 | 520 |
| Water sand - - - | 40 | 560 |
| Brown gumbo - - - | 26 | 586 |
| White lime rock - - - | 2 | 588 |
| Fine blue sand - - - | 4 | 592 |
| White lime rock - - - | 1 | 593 |
| Gray shale - - - | 19 | 612 |
| White sand - - - | 4 | 616 |
| Sand rock - - - | 3 | 619 |
| Hard packed sand - - - | 14 | 633 |
| Sand and shale - - - | 22 | 655 |
| Sand rock - - - | 2 | 657 |
| Sand - - - | 35 | 692 |
| Sand rock - - - | 3 | 695 |
| Sand - - - | 51 | 746 |

| <u>Driller's log of well 6</u> | | |
|---|-----|-----|
| Sprague Oil Company, J. H. Hall Number 2. | | |
| Surface soil - - - | 8 | 8 |
| Sand - - - | 40 | 48 |
| Shale - - - | 12 | 60 |
| Sandy shale - - - | 25 | 85 |
| Sticky shale - - - | 100 | 185 |

| | Thickness (feet) | Depth (feet) |
|---|---------------------|-----------------|
| <u>Driller's log of well 6--Continued</u> | | |
| Shale and boulders - - - | 65 | 250 |
| Sticky shale - - - | 60 | 310 |
| Water sand artesian flow - | 20 | 330 |
| Sticky shale - - - | 30 | 360 |
| Hard sand - - - | 24 | 384 |
| Sticky shale - - - | 64 | 448 |
| Water sand artesian flow - | 22 | 470 |
| Shale and boulders - - - | 40 | 512 |
| Sticky shale - - - | 108 | 620 |
| Sandy shale - - - | 130 | 750 |
| Water sand artesian flow - | 24 | 774 |
| Shale - - - | 46 | 820 |
| Sticky shale - - - | 130 | 950 |
| Water sand - - - | 22 | 972 |
| Shale and boulders - - - | 52 | 1024 |
| Sticky shale - - - | 76 | 1100 |
| Sand - - - | 12 | 1112 |
| Sticky shale - - - | 18 | 1130 |
| Shale - - - | 44 | 1174 |
| Sand and boulders - - - | 47 | 1221 |
| Shale - - - | 89 | 1310 |
| Sticky shale - - - | 90 | 1400 |
| Water sand artesian flow - | 24 | 1424 |
| Shale - - - | 30 | 1460 |
| TOTAL DEPTH - - - | - | 4316 |

| <u>Driller's log of well 7</u> | | |
|--|----|-----|
| Montgomery County Oil Company, Shawver | | |
| Number 1. | | |
| Surface sand - - - | 10 | 10 |
| Clay - - - | 15 | 25 |
| Sand - - - | 3 | 28 |
| Gumbo - - - | 30 | 58 |
| Shale - - - | 20 | 78 |
| Sand - - - | 5 | 83 |
| Shale and boulders - - - | 25 | 108 |
| Sand and boulders - - - | 8 | 116 |
| Gumbo and shale - - - | 71 | 187 |
| Sand and boulders - - - | 10 | 197 |
| Gumbo - - - | 31 | 228 |
| Sand - - - | 20 | 248 |
| Rock - - - | 1 | 249 |
| Shale - - - | 6 | 255 |
| Rock - - - | 3 | 258 |
| Gumbo and boulders - - - | 16 | 274 |
| Rock - - - | 1 | 275 |
| Sandy shale - - - | 3 | 278 |
| Rock - - - | 3 | 281 |
| Gumbo and shale - - - | 82 | 363 |
| Sand - - - | 35 | 398 |
| Blue gumbo - - - | 10 | 408 |
| Shale - - - | 13 | 421 |
| Sand shale and boulders - | 20 | 441 |
| Shale - - - | 20 | 461 |

(Continued on next page)

Table of Drillers' Logs, Montgomery County--Continued

| | Thickness (feet) | Depth (feet) |
|---|---------------------|-----------------|
| <u>Driller's log of well 7--Continued</u> | | |
| Sand - - - - | 30 | 491 |
| Gumbo - - - - | 143 | 636 |
| Shale - - - - | 49 | 685 |
| Sand rock - - - - | 2 | 687 |
| Sandy shale and boulders - - - - | 12 | 699 |
| Gumbo - - - - | 48 | 747 |
| Sand and boulders - - - - | 50 | 797 |
| Packed sand - - - - | 20 | 817 |
| Sand rock - - - - | 33 | 850 |
| Gumbo - - - - | 48 | 898 |
| sandy shale - - - - | 9 | 907 |
| Pecked sand and boulders - - - - | 20 | 927 |
| Gumbo - - - - | 40 | 967 |
| Shale - - - - | 17 | 984 |
| Gumbo - - - - | 20 | 1004 |
| Broken rock and sand - - - - | 20 | 1024 |
| Gumbo - - - - | 90 | 1114 |
| TOTAL DEPTH - - - - | | 3515 |

| | Thickness (feet) | Depth (feet) |
|--|---------------------|-----------------|
| <u>Driller's log of well 21</u> | | |
| Gulf Coast and Santa Fe Railroad, owner. | | |
| Sand and clay - - - - | 14 | 14 |
| Yellow clay - - - - | 44 | 58 |
| Coarse yellow sand - - - - | 24 | 82 |
| Yellow clay - - - - | 99 | 181 |
| Yellow sand - - - - | 21 | 202 |
| Tough red clay - - - - | 33 | 235 |
| Sand rock - - - - | 6 | 241 |
| Gray gumbo - - - - | 55 | 296 |
| sand rock - - - - | 7 | 303 |
| Gumbo - - - - | 15 | 318 |
| sand rock - - - - | 16 | 334 |
| Gumbo - - - - | 42 | 376 |
| Rock - - - - | 2 | 378 |
| Gumbo - - - - | 85 | 463 |
| Rock - - - - | 2 | 465 |
| Gumbo and shale - - - - | 102 | 567 |
| Lime rock - - - - | 22 | 589 |
| Pecked sand - - - - | 9 | 598 |
| Shale - - - - | 33 | 631 |
| Gumbo - - - - | 51 | 682 |
| Hard sand - - - - | 13 | 695 |
| Shale and gumbo - - - - | 41 | 736 |
| Red sand - - - - | 29 | 765 |
| Gumbo and shale - - - - | 180 | 945 |
| Rock - - - - | 23 | 968 |
| Tough blue shale and gumbo - - - - | 18 | 986 |
| Gumbo and shale - - - - | 61 | 1047 |
| Rock and sand - - - - | 9 | 1056 |
| Tough shale - - - - | 5 | 1061 |
| Rock - - - - | 3 | 1064 |
| Gumbo - - - - | 23 | 1087 |
| Coarse gray water sand - - - - | 24 | 1111 |
| Sand and rock - - - - | 7 | 1118 |

| | Thickness (feet) | Depth (feet) |
|--|---------------------|-----------------|
| <u>Driller's log of well 21--Continued</u> | | |
| Mixed shale and gravel - - - - | 21 | 1139 |
| Pecked sand and rock - - - - | 7 | 1146 |
| Tough shale and soft rock - - - - | 46 | 1192 |
| Coarse gray water sand - - - - | 22 | 1214 |
| Sand rock - - - - | 29 | 1243 |
| Coarse gray water sand - - - - | 33 | 1276 |
| Tough shale - - - - | 6 | 1282 |

| | Thickness (feet) | Depth (feet) |
|---|---------------------|-----------------|
| <u>Driller's log of well 39</u> | | |
| McMaster Oil Company, H. W. McMaster Number 2. | | |
| Sand - - - - | 5 | 5 |
| Clay - - - - | 19 | 24 |
| Sand and gravel - - - - | 12 | 36 |
| Sticky shale - - - - | 29 | 65 |
| Water sand - - - - | 305 | 370 |
| Gumbo - - - - | 38 | 408 |
| Hard sand - - - - | 12 | 420 |
| Gumbo - - - - | 52 | 472 |
| Hard sand - - - - | 10 | 482 |
| Gumbo - - - - | 18 | 500 |
| Blue shale - - - - | 24 | 524 |
| Hard sand - - - - | 9 | 533 |
| Shale, gumbo and boulders - - - - | 112 | 645 |
| Red gumbo - - - - | 17 | 662 |
| Sand - - - - | 43 | 705 |
| Gumbo - - - - | 35 | 740 |
| Sand - - - - | 35 | 775 |
| Gumbo - - - - | 90 | 865 |
| Shale and boulders - - - - | 30 | 895 |
| Gumbo - - - - | 93 | 988 |
| Sand and boulders - - - - | 30 | 1028 |
| Gumbo and boulders - - - - | 94 | 1122 |
| Hard sand - - - - | 63 | 1185 |
| Gumbo - - - - | 29 | 1214 |
| Shale - - - - | 24 | 1238 |
| Sand - - - - | 52 | 1290 |
| Gumbo and boulders - - - - | 22 | 1312 |
| Chalk - - - - | 6 | 1318 |
| Sand - - - - | 14 | 1332 |
| Shale - - - - | 26 | 1358 |
| Sand - - - - | 32 | 1390 |
| Gumbo and boulders - - - - | 70 | 1460 |
| Broken sand - - - - | 38 | 1498 |
| Gumbo - - - - | 92 | 1590 |
| Coarse sand - - - - | 62 | 1652 |
| Gumbo - - - - | 89 | 1741 |
| TOTAL DEPTH - - - - | | 3025 |

| | Thickness (feet) | Depth (feet) |
|--|---------------------|-----------------|
| <u>Driller's log of well 41</u> | | |
| International and Great Northern Rail- road, owner. | | |
| Yellow clay - - - - | 75 | 75 |

(Continued on next page)

Table of Drillers' Logs, Montgomery County--Continued

| | Thickness (feet) | Depth (feet) |
|--|---------------------|-----------------|
| <u>Driller's log of well 41--Continued</u> | | |
| Water sand - - - | 21 | 95 |
| Joint clay - - - | 26 | 121 |
| Water sand - - - | 25 | 146 |
| Packed sand - - - | 42 | 188 |
| Hard rock - - - | 16 | 204 |
| Sand and boulders - - - | 74 | 278 |
| Gumbo - - - | 125 | 403 |
| Rock - - - | 2 | 405 |
| Gumbo and boulders - - - | 110 | 515 |
| Hard packed sand - - - | 89 | 604 |
| Fine sand - - - | 36 | 640 |
| Brown shale - - - | 67 | 707 |
| Hard lime rock - - - | 1 | 708 |
| Brown shale - - - | 10 | 718 |
| Water sand - - - | 23 | 741 |
| Packed sand - - - | 32 | 773 |
| Gumbo - - - | 10 | 783 |
| Hard sand - - - | 25 | 808 |
| Brown shale - - - | 20 | 828 |
| Water sand - - - | 7 | 835 |
| Shale and gumbo - - - | 148 | 983 |
| Sand and shale - - - | 45 | 1028 |
| Gumbo - - - | 37 | 1065 |
| Sand and gravel - - - | 20 | 1085 |
| Gumbo - - - | 97 | 1182 |
| Shale and boulders - - - | 10 | 1192 |
| Tough gumbo - - - | 108 | 1300 |
| Sand and gumbo - - - | 7 | 1307 |
| Rock - - - | 2 | 1309 |
| Water sand - - - | 12 | 1321 |
| Lime rock - - - | 4 | 1325 |
| Water sand - - - | 22 | 1347 |
| Gumbo - - - | 4 | 1351 |
| Rock - - - | 4 | 1355 |
| Water sand - - - | 28 | 1383 |
| Gumbo, sand and lime - - - | 6 | 1389 |
| Packed sand - - - | 41 | 1430 |
| Blue shale - - - | 16 | 1446 |
| Tough gumbo - - - | 6 | 1452 |

| <u>Driller's log of well 42</u> | | |
|---|-----|-----|
| Cullen and West Production Company's Chase Number 1. | | |
| Surface sand and clay - - - | 32 | 32 |
| Sand and clay - - - | 133 | 165 |
| Gumbo - - - | 42 | 207 |
| Sand - - - | 250 | 257 |
| Gumbo - - - | 10 | 267 |
| Sand - - - | 33 | 300 |
| Gumbo - - - | 57 | 357 |
| Sticky shale - - - | 14 | 371 |
| Sand and gravel - - - | 20 | 391 |
| Gumbo - - - | 10 | 401 |
| Sand and gravel - - - | 16 | 417 |
| Rock - - - | 1 | 418 |

| | Thickness (feet) | Depth (feet) |
|--|---------------------|-----------------|
| <u>Driller's log of well 42--Continued</u> | | |
| Sand and gravel - - - | 17 | 435 |
| Sticky shale - - - | 75 | 510 |
| Shale, lim and boulders - - - | 50 | 560 |
| Rock - - - | 2 | 562 |
| Gumbo - - - | 34 | 596 |
| Shale - - - | 101 | 697 |
| Sand and boulders - - - | 32 | 729 |
| Sticky shale - - - | 23 | 752 |
| Sand and boulders - - - | 75 | 827 |
| Gumbo - - - | 22 | 849 |
| Sand and boulders - - - | 31 | 880 |
| Gumbo - - - | 20 | 900 |
| Shale and gumbo - - - | 148 | 1048 |
| Sand - - - | 4 | 1052 |
| Hard sandy lime - - - | 16 | 1068 |
| Gumbo - - - | 48 | 1116 |
| Sand - - - | 32 | 1148 |
| Gumbo - - - | 29 | 1177 |
| Sand - - - | 5 | 1182 |
| Gumbo - - - | 18 | 1200 |
| Sticky shale - - - | 30 | 1230 |
| Rock - - - | 1 | 1231 |
| Sand and shale - - - | 10 | 1241 |
| Sticky shale - - - | 23 | 1264 |
| Sand - - - | 25 | 1289 |
| Gumbo and lime - - - | 26 | 1315 |
| Sand - - - | 20 | 1335 |
| Shale - - - | 53 | 1388 |
| Sand - - - | 48 | 1436 |
| Gumbo and lime - - - | 76 | 1512 |
| Sand - - - | 3 | 1515 |
| Sticky shale - - - | 18 | 1533 |
| TOTAL DEPTH - - - | - | 3516 |

| <u>Driller's log of well 43</u> | | |
|---|-----|-----|
| Layne-Texas Company's Pierce-Fordyce Oil Association Number 1. | | |
| Clay and water sand - - - | 104 | 104 |
| Clay - - - | 82 | 186 |
| Water sand - - - | 19 | 205 |
| Yellow clay - - - | 15 | 220 |
| Sand - - - | 25 | 245 |
| Gravel - - - | 20 | 265 |
| Sand - - - | 30 | 295 |
| Sand rock - - - | 3 | 298 |
| Sand - - - | 27 | 325 |
| Clay - - - | 50 | 375 |
| Sand - - - | 15 | 390 |
| Clay - - - | 45 | 435 |
| Sand - - - | 65 | 500 |
| Clay - - - | 70 | 570 |
| Shale - - - | 4 | 574 |
| Gravel and boulders - - - | 21 | 595 |
| Clay - - - | 20 | 615 |

(Continued on next page)

Table of Drillers' Logs, Montgomery County--Continued

| | Thickness (feet) | Depth (feet) |
|--|---------------------|-----------------|
| <u>Driller's log of well 43--Continued</u> | | |
| Sand rock - - - | 4 | 619 |
| Clay and shale - - | 342 | 961 |
| Sand and boulders - | 19 | 980 |
| Sand rock - - - | 4 | 984 |
| Gumbo and shale - - | 84 | 1068 |
| Sand and boulders - | 4 | 1072 |
| Gumbo - - - | 135 | 1217 |
| Soft rock - - - | 2 | 1219 |
| Pink shale - - - | 30 | 1249 |
| Shale - - - | 82 | 1331 |
| Soft rock - - - | 11 | 1342 |
| Shale and boulders - | 6 | 1348 |
| Lime, boulders and sand- | 8 | 1356 |
| Gumbo - - - | 32 | 1388 |
| Sand - - - | 7 | 1395 |
| Sand rock - - - | 1 | 1396 |
| Soft sand - - - | 92 | 1488 |
| Tough gumbo - - - | 42 | 1530 |
| Hard shale and boulders- | 8 | 1538 |
| Packed sand and gravel - | 49 | 1587 |
| Gumbo - - - | 5 | 1592 |
| TOTAL DEPTH - - - | | 3706 |

| | Thickness (feet) | Depth (feet) |
|---|---------------------|-----------------|
| <u>Driller's log of well 54</u> | | |
| Brains et al Ash Number 1, C. L. Fitch, owner. | | |
| Surface - - - | 13 | 13 |
| Clay - - - | 7 | 20 |
| White sand - - - | 79 | 99 |
| Clay - - - | 3 | 102 |
| White sand - - - | 36 | 138 |
| Clay - - - | 11 | 149 |
| Sand - - - | 4 | 153 |
| Gumbo - - - | 37 | 190 |
| Hard sand - - - | 26 | 216 |
| Shale and boulders - | 40 | 256 |
| Rock and gumbo - - | 10 | 266 |
| Rock and sand - - | 13 | 279 |
| Shale and boulders - | 21 | 300 |
| Red and brown shale - | 68 | 368 |
| Red gumbo - - - | 11 | 379 |
| Hard sand - - - | 15 | 394 |
| Pink gumbo - - - | 102 | 496 |
| Rock - - - | 2 | 498 |
| Brown shale - - - | 32 | 530 |
| Pink gumbo - - - | 10 | 540 |
| Brown shale - - - | 12 | 552 |
| Pink gumbo - - - | 10 | 562 |
| Rock - - - | 2 | 564 |
| Gumbo - - - | 5 | 569 |
| Rock - - - | 1 | 570 |
| Pink gumbo - - - | 10 | 580 |
| Sand and boulders - | 8 | 588 |
| Pink gumbo and boulders- | 47 | 635 |
| Blue shale - - - | 15 | 650 |

| | Thickness (feet) | Depth (feet) |
|--|---------------------|-----------------|
| <u>Driller's log of well 54--Continued</u> | | |
| Pink gumbo - - - | 13 | 663 |
| Sandy shale - - - | 14 | 677 |
| Pink gumbo - - - | 51 | 728 |
| Blue sand - - - | 22 | 750 |
| Blue water sand - - | 15 | 765 |
| Blue shale - - - | 23 | 788 |
| White sandy shale - - | 4 | 792 |
| Hard rock - - - | 17 | 809 |
| Blue shale - - - | 17 | 826 |
| Water sand - - - | 92 | 918 |
| Gumbo - - - | 32 | 950 |
| Sandy shale and boulders- | 45 | 995 |
| Gumbo - - - | 15 | 1010 |
| Sandy lime - - - | 25 | 1035 |
| Shale and gumbo - - | 49 | 1084 |
| Sandy shale and boulders- | 16 | 1100 |
| Gumbo and lime - - | 95 | 1195 |
| Blue shale and boulders - | 15 | 1210 |
| Gumbo - - - | 8 | 1218 |
| Water sand - - - | 7 | 1225 |
| Pink, blue and brown gumbo - - - | 90 | 1315 |
| Blue sand - - - | 3 | 1318 |
| Gumbo - - - | 10 | 1328 |
| Pink and blue shale - - | 43 | 1371 |
| Sand and boulders - - | 16 | 1387 |
| Blue shale - - - | 15 | 1402 |
| Packed sand and boulders- | 32 | 1434 |
| Blue shale - - - | 6 | 1440 |
| Hard white sand - - - | 15 | 1455 |
| Blue and white sand - - | 13 | 1468 |
| Gumbo - - - | 62 | 1530 |
| TOTAL DEPTH - - - | | 2285 |

| | Thickness (feet) | Depth (feet) |
|---|---------------------|-----------------|
| <u>Driller's log of well 55</u> | | |
| Black Hawk Oil Company's Wight-Schaedler Number 1. | | |
| Surface sand and clay - | 45 | 45 |
| White sand - - - | 18 | 63 |
| Red clay and streaks of sand - - - | 20 | 83 |
| White sand - - - | 90 | 173 |
| White gravel - - - | 7 | 180 |
| Yellow clay - - - | 27 | 207 |
| Gravel and sand - - - | 19 | 226 |
| Rock - - - | 1 | 227 |
| Yellow sandy clay - - - | 52 | 279 |
| Rock - - - | 3 | 282 |
| Red clay - - - | 28 | 310 |
| Soft white sand - - - | 18 | 328 |
| Pack sand and gravel - - | 9 | 337 |
| Rock - - - | 1 | 338 |
| Soft white sand - - - | 48 | 386 |
| White sand and gravel - - | 58 | 444 |

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Table of Drillers' Logs, Montgomery County--Continued

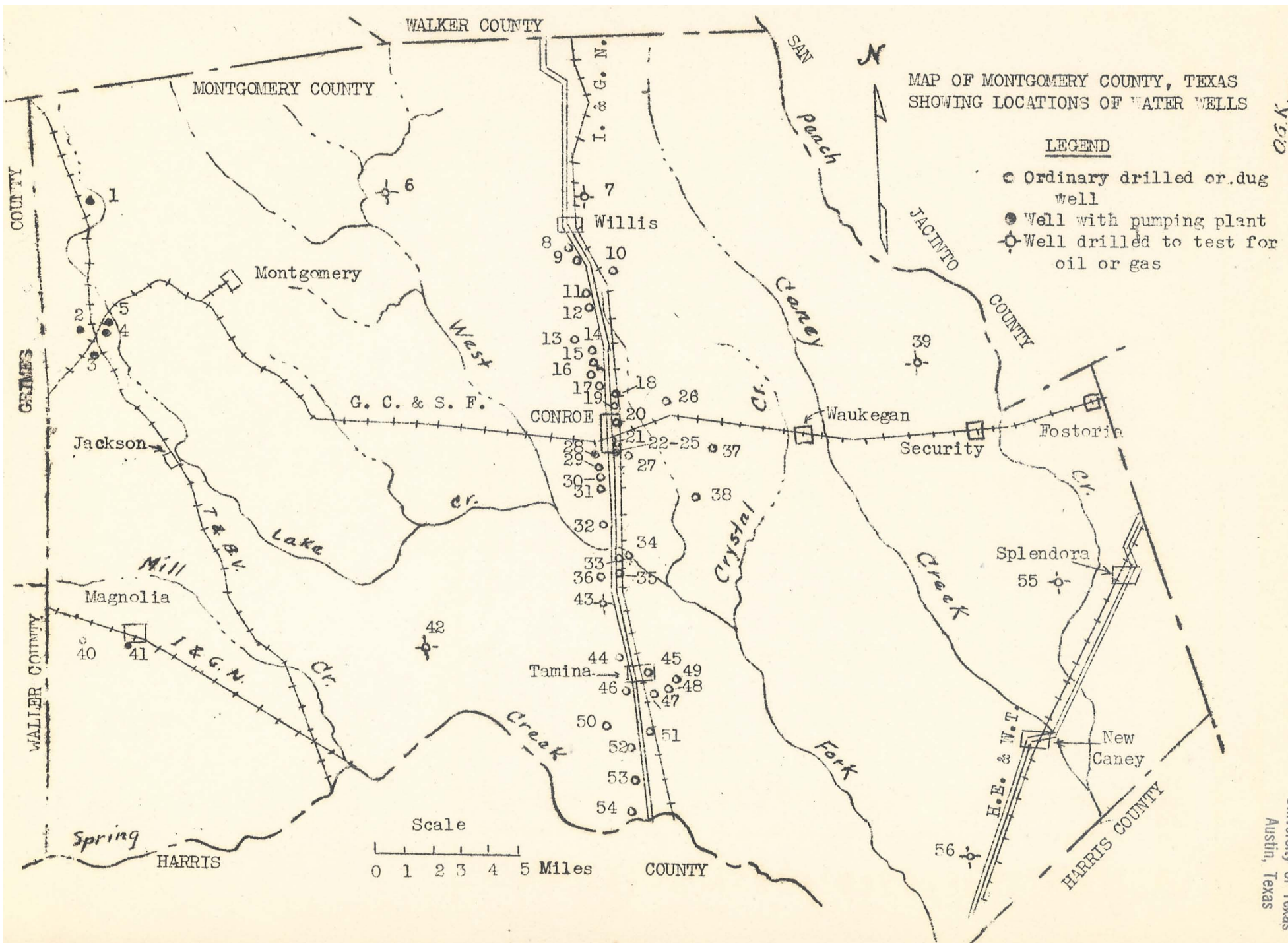
| | Thickness (feet) | Depth (feet) |
|--|---------------------|-----------------|
| <u>Driller's log of well 55--Continued</u> | | |
| Gumbo - - - - | 28 | 472 |
| Rock - - - - | 2 | 474 |
| Yellow clay and gravel - - | 47 | 521 |
| Gumbo - - - - | 7 | 528 |
| Yellow clay and gravel - - | 45 | 573 |
| Rock - - - - | 2 | 575 |
| Blue shale - - - - | 75 | 650 |
| Rock - - - - | 2 | 652 |
| Gumbo - - - - | 37 | 689 |
| Rock - - - - | 3 | 692 |
| Yellow gumbo and boulders | 201 | 893 |
| Rock - - - - | 1 | 894 |
| Hard lime rock - - - - | 11 | 905 |
| Blue shale - - - - | 40 | 945 |
| Gumbo and boulders - - - | 9 | 954 |
| White pack sand - - - - | 10 | 964 |
| Gumbo - - - - | 26 | 990 |
| Blue shale - - - - | 11 | 1001 |
| Gumbo and boulders - - - | 109 | 1110 |
| Tough gumbo - - - - | 43 | 1153 |
| White lime rock - - - - | 4 | 1157 |
| Blue sandy shale - - - - | 6 | 1163 |
| Pack sand - - - - | 14 | 1177 |
| Tough gumbo - - - - | 72 | 1249 |
| Sand rock - - - - | 7 | 1256 |
| Pack sand - - - - | 4 | 1260 |
| Rock - - - - | 3 | 1263 |
| TOTAL DEPTH - - - - | | 4598 |

| | Thickness (feet) | Depth (feet) |
|---|---------------------|-----------------|
| <u>Driller's log of well 56</u> | | |
| Rucker Oil and Refining Company's J. W. Reynold's Number 1. | | |
| Sand - - - - | 130 | 130 |
| Sand - - - - | 20 | 150 |
| Red clay - - - - | 15 | 165 |
| Sand and boulders - - - | 25 | 190 |
| Clay - - - - | 15 | 205 |
| Sand - - - - | 45 | 250 |
| Clay and gravel - - - - | 30 | 280 |
| Sand - - - - | 45 | 325 |
| Blue gumbo - - - - | 15 | 340 |
| Sand - - - - | 55 | 395 |
| Sandy clay - - - - | 20 | 415 |
| Clay - - - - | 35 | 450 |
| Sand - - - - | 90 | 540 |
| Clay - - - - | 25 | 565 |
| Sand - - - - | 65 | 630 |
| Clay - - - - | 20 | 650 |
| Sand - - - - | 80 | 730 |
| Gumbo - - - - | 10 | 740 |
| Sandy clay - - - - | 26 | 766 |
| Gumbo - - - - | 20 | 786 |
| Artesian water sand - - | 94 | 880 |
| Tough gumbo - - - - | 6 | 886 |
| Gumbo - - - - | 26 | 910 |
| Sandy shale - - - - | 22 | 932 |
| Sand - - - - | 3 | 935 |
| Sandy shale - - - - | 5 | 940 |
| Sand - - - - | 8 | 948 |
| Shale - - - - | 4 | 952 |
| Sand - - - - | 6 | 958 |
| Gumbo - - - - | 9 | 967 |
| Sand - - - - | 13 | 980 |
| Gumbo - - - - | 12 | 992 |

MAP OF MONTGOMERY COUNTY, TEXAS
SHOWING LOCATIONS OF WATER WELLS

LEGEND

- Ordinary drilled or dug well
- Well with pumping plant
- ⊙ Well drilled to test for oil or gas



C.S.K.

Montgomery County, Texas
Austin, Texas