

LOG OF WELL

GEOLOGICAL DEPARTMENT

Southwestern Gas Co.

Independence, Kansas

Company..... Farm Ball Well No. 1

State Kansas County Elk S. 33 T. 31 R. 9E

Commenced Drilling..... Completed..... Elev.....

Shot..... Qts. from..... to..... I. P..... R. P.....

Casing: 6-5/8 Casing:..... Casing:.....

Casing:..... Casing:..... Casing:.....

Tubing..... Caged at..... Packer at.....

| | | | |
|-------------|----------|-------------|--------------------|
| soil | 7 | shale | 1080 |
| lime | 9 | lime | 1245 |
| shale | 35 | shale | 1370 |
| lime | 60 | lime | 1385 |
| shale shell | 85 | shale | 1415 |
| shale | 90 | lime | 1423 |
| slate | 105 | shale | 1450 |
| lime | 108 | sand | 1490-HFW |
| slate | 137 | lime | 1590 |
| lime | 177 | sand | 1642-HFW |
| shale shell | 202 | lime | 1748 |
| lime | 212 | shale | 1753 |
| shale shell | 232 | lime | 1757 |
| slate | 300 | shale | 1772 |
| red rock | 310 | lime | 1776 |
| shale shell | 315 | shale | 1820 |
| lime | 325 | lime | 1850 |
| slate | 350 | shale | 1870 |
| lime | 365 | lime | 1875 |
| slate | 425 | shale sandy | 1890 |
| red rock | 435 | shale | 1905 |
| slate | 455 | lime | 1910 |
| lime | 460 | slate | 1915 |
| slate | 480 | lime | 1920 |
| lime | 485 | sand | 1940- Bartlesville |
| slate | 555 | shale | 1950 |
| sand | 595-HFW | lime | 1954 |
| slate | 625 | shale | 2054 |
| lime | 630 | sand | 2064 |
| slate | 647 | shale | 2160 |
| lime | 675 | red rock | 2165 |
| red rock | 685 | shale | 2180 |
| shale | 690 | shale | 2205 |
| sand | 705 | shale | 2245 |
| shale | 708 | lime | 2285 |
| lime | 715 | sand | 2295 |
| slate | 720 | lime | 2485 |
| lime | 730 | shale | 2525 |
| shale | 795 | lime | 2550 |
| lime | 815 | sand | 2553-water |
| shale | 1010 | sand | 2578 |
| sand | 1025-HFW | | |
| lime | 1045 | | |

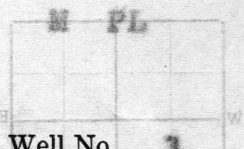
33-31-95

GEOLOGICAL DEPARTMENT
 SOUTHWESTERN GAS COMPANY

Gift of
 W. L. Stryker Estate
 State Geological Survey of Kansas
 1970

INDEPENDENCE, KANSAS

LOG OF WELL



Company Granola Oil Co. Farm Ball Well No. 1
ESL NE NE

State Kansas County Ellis S. 33 T. 31 R. 0

Commenced Drilling Completed Elev.

Shot Qts. from to I. P. R. P.

Casing: Casing: Casing:

Casing: Casing: Casing:

Tubing Caged at Packer at

Contractor

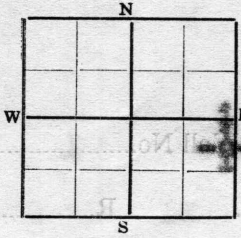
| | | | |
|--------------|---------|-------------------|----------|
| soil | 7 | lime | 715 |
| lime | 9 | slate | 720 |
| shale | 35 | lime | 730 |
| lime | 60 | shale | 795 |
| shale shells | 85 | lime | 815 |
| shale | 90 | shale | 1010 |
| slate | 105 | sand | 1025 HPW |
| lime | 108 | lime | 1045 |
| slate | 137 | shale | 1080 |
| lime | 177 | lime | 1245 |
| shale shells | 202 | shale | 1370 |
| lime | 212 | lime | 1385 |
| shale shells | 232 | shale | 1415 |
| slate | 300 | lime | 1423 |
| red rock | 310 | shale | 1450 |
| shale shells | 315 | sand | 1490 HPW |
| lime | 325 | lime | 1748 |
| slate | 350 | shale | 1753 |
| lime | 365 | lime | 1757 |
| slate | 425 | shale | 1772 |
| red rock | 435 | lime | 1776 |
| slate | 455 | shale | 1820 |
| lime | 460 | lime | 1850 |
| slate | 480 | shale | 1870 |
| lime | 485 | lime | 1975 |
| slate | 555 | shale sandy | 1890 |
| sand | 595 HPW | shale | 1905 |
| slate | 625 | lime | 1910 |
| lime | 630 | slate | 1915 |
| slate | 647 | lime | 1920 |
| lime | 675 | sand Bartlesville | 1940 |
| red rock | 685 | shale | 1950 |
| shale | 690 | lime | 1954 |
| sand | 705 | shale | 2054 |
| shale | 708 | sand | 2064 |

1578

(over)

State Geological Survey of Kansas
W. E. Stricker, Editor
1920

LOCATION



..... Ft. from North Line of qr. sec.
..... Ft. from South Line of qr. sec.
..... Ft. from East Line of qr. sec.
..... Ft. from West Line of qr. sec.

TEST

| | | | | |
|-----------|------------------------------------|---------|-------|--------------------------|
| Through | Pitot Tube Test of 192 | | | 192 |
| In Tubing | Used | Mercury | Water | Open Gauge Test Shows |
| | Reading | | | |
| In Casing | Vol. Cu. Ft. | | | Lbs. |

shale 2160
 red rock 2165
 shale 2245
 shale 2285
 sand 2295
 shale 2465
 shale 2525
 shale 2550
 sand 2576 water 2555

Contractor