

OILFIELD RESEARCH LABORATORIES

- REGISTERED ENGINEERS -

700 NORTH MISSION
OKMULGEE, OKLAHOMA
PHONE: 4444

Chanute, Kansas

536 N. HIGHLAND
CHANUTE, KANSAS
PHONE: HE 1-2650

December 30, 1961

Mr. Ross Schoonover
1000 West 6th
Topeka, Kansas

Dear Sir:

Enclosed herewith are the results of tests run on the Rotary core samples taken from the Broers Lease, Well No. 3, Franklin County, Kansas, and submitted to our laboratory on December 27, 1961.

These samples were sealed in plastic bags and brought in by a representative of the client.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES



Carl L. Pate

CLP:rf

5 c.

LOGCompany Ross Schoonover Lease Broers Well No. 3Depth Interval, Description
Feet

736.0 - 736.5 - Shaley sandstone.

736.5 - 743.5 - Light brown sandstone.

743.5 - 744.5 - Light brown slightly shaley sandstone.

744.5 - 749.5 - Brown sandstone.

749.5 - 752.5 - Dark brown sandstone.

752.5 - 763.5 - Brown sandstone.

763.5 - 767.5 - Light brown slightly shaley sandstone.

767.5 - 773.5 - Light brown laminated shaley sandstone.

773.5 - 779.0 - Light brown sandstone.

LOGCompany Ross Schoonover Lease Broers Well No. 3Depth Interval, Description
Feet

736.0 - 736.5 - Shaley sandstone.

736.5 - 743.5 - Light brown sandstone.

743.5 - 744.5 - Light brown slightly shaley sandstone.

744.5 - 749.5 - Brown sandstone.

749.5 - 752.5 - Dark brown sandstone.

752.5 - 763.5 - Brown sandstone.

763.5 - 767.5 - Light brown slightly shaley sandstone.

767.5 - 773.5 - Light brown laminated shaley sandstone.

773.5 - 779.0 - Light brown sandstone.

Oilfield Research Laboratories

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Ross Schoonover

Lease Broers

Well No. 3

| Sample No. | Depth, Feet | Effective Porosity Percent | Percent Saturation | | Oil Content Bbls. / A Ft. | Perm., Mill. | Feet of Sand | | Total Oil Content | Perm. Capacity Ft. X md. |
|------------|-------------|----------------------------|--------------------|-------|---------------------------|--------------|--------------|------|-------------------|--------------------------|
| | | | Oil | Water | | | T Total | Ft. | | |
| 1 | 736.1 | 14.8 | 18 | 60 | 78 | 17. | 0.5 | 0.5 | 104 | 8.50 |
| 2 | 737.0 | 21.1 | 21 | 48 | 69 | 30. | 1.0 | 1.5 | 344 | 30.00 |
| 3 | 738.0 | 23.3 | 22 | 45 | 67 | 68. | 1.0 | 2.5 | 397 | 68.00 |
| 4 | 739.0 | 21.1 | 22 | 51 | 73 | 120. | 1.0 | 3.5 | 360 | 120.00 |
| 5 | 740.0 | 23.6 | 25 | 39 | 64 | 67. | 1.0 | 4.5 | 457 | 67.00 |
| 6 | 741.0 | 20.7 | 28 | 35 | 63 | 22. | 1.0 | 5.5 | 449 | 22.00 |
| 7 | 742.0 | 21.5 | 37 | 41 | 78 | 19. | 1.0 | 6.5 | 616 | 19.00 |
| 8 | 743.0 | 19.1 | 31 | 51 | 82 | 446. | 1.0 | 7.5 | 459 | 446.00 |
| 9 | 744.0 | 16.2 | 44 | 48 | 92 | 20. | 1.0 | 8.5 | 553 | 20.00 |
| 10 | 745.0 | 21.4 | 38 | 38 | 76 | 32. | 1.0 | 9.5 | 630 | 32.00 |
| 11 | 746.0 | 22.3 | 47 | 27 | 74 | 46. | 1.0 | 10.5 | 813 | 46.00 |
| 12 | 747.0 | 22.2 | 46 | 30 | 76 | 35. | 1.0 | 11.5 | 792 | 35.00 |
| 13 | 748.0 | 20.6 | 46 | 38 | 84 | 45. | 1.0 | 12.5 | 735 | 45.00 |
| 14 | 749.0 | 21.9 | 40 | 35 | 75 | 32. | 1.0 | 13.5 | 680 | 32.00 |
| 15 | 750.0 | 22.9 | 49 | 30 | 79 | 496. | 1.0 | 14.5 | 870 | 496.00 |
| 16 | 751.0 | 26.5 | 47 | 24 | 71 | 219. | 1.0 | 15.5 | 965 | 219.00 |
| 17 | 752.0 | 26.6 | 50 | 21 | 71 | 30. | 1.0 | 16.5 | 1032 | 30.00 |
| 18 | 753.0 | 20.8 | 42 | 38 | 80 | 59. | 1.0 | 17.5 | 678 | 59.00 |
| 19 | 754.0 | 19.8 | 55 | 36 | 91 | 55. | 1.0 | 18.5 | 845 | 55.00 |
| 20 | 755.0 | 20.1 | 46 | 49 | 95 | 187. | 1.0 | 19.5 | 716 | 187.00 |
| 21 | 756.0 | 19.8 | 49 | 36 | 85 | 21. | 1.0 | 20.5 | 752 | 21.00 |
| 22 | 757.0 | 20.3 | 43 | 38 | 81 | 39. | 1.0 | 21.5 | 677 | 39.00 |
| 23 | 758.0 | 20.0 | 43 | 36 | 79 | 25. | 1.0 | 22.5 | 666 | 25.00 |
| 24 | 759.0 | 20.3 | 43 | 38 | 81 | 25. | 1.0 | 23.5 | 677 | 25.00 |
| 25 | 760.0 | 21.0 | 46 | 38 | 84 | 40. | 1.0 | 24.5 | 749 | 40.00 |
| 26 | 761.0 | 18.1 | 45 | 44 | 89 | 28. | 1.0 | 25.5 | 631 | 28.00 |
| 27 | 762.0 | 19.7 | 43 | 41 | 84 | 36. | 1.0 | 26.5 | 657 | 36.00 |
| 28 | 763.0 | 20.2 | 45 | 37 | 82 | 20. | 1.0 | 27.5 | 705 | 20.00 |

Oilfield Research Laboratories

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Ross Schoonover

Lease Broers

Well No. 3

| Sample No. | Depth, Feet | Effective Porosity Percent | Percent Saturation | | | Oil Content Bbls. / A Ft. | Perm., Mill. | Feet of Sand | | Total Oil Content | Perm. Capacity Ft. X md. |
|------------|-------------|----------------------------|--------------------|-------|-------|---------------------------|--------------|--------------|----------|-------------------|--------------------------|
| | | | Oil | Water | Total | | | Ft. | Cum. Ft. | | |
| 29 | 764.0 | 20.1 | 44 | 40 | 84 | 685 | 17. | 1.0 | 28.5 | 685 | 17.00 |
| 30 | 765.0 | 18.3 | 40 | 50 | 90 | 568 | 15. | 1.0 | 29.5 | 568 | 15.00 |
| 31 | 766.0 | 19.6 | 46 | 49 | 95 | 699 | -* | 1.0 | 30.5 | 699 | - |
| 32 | 767.0 | 19.4 | 53 | 40 | 93 | 797 | 14. | 1.0 | 31.5 | 797 | 14.00 |
| 33 | 768.0 | 15.2 | 21 | 71 | 92 | 248 | 13. | 1.0 | 32.5 | 248 | 13.00 |
| 34 | 769.0 | 18.1 | 35 | 56 | 91 | 491 | 15. | 1.0 | 33.5 | 491 | 15.00 |
| 35 | 770.0 | 20.0 | 38 | 39 | 77 | 589 | 29. | 1.0 | 34.5 | 589 | 29.00 |
| 36 | 771.0 | 19.4 | 32 | 45 | 77 | 481 | -* | 1.0 | 35.5 | 481 | - |
| 37 | 772.0 | 18.3 | 20 | 60 | 80 | 284 | -* | 1.0 | 36.5 | 284 | - |
| 38 | 773.0 | 18.9 | 35 | 51 | 86 | 514 | 32. | 1.0 | 37.5 | 514 | 32.00 |
| 39 | 774.0 | 22.6 | 24 | 48 | 72 | 421 | 16. | 1.0 | 38.5 | 421 | 16.00 |
| 40 | 775.0 | 25.8 | 26 | 50 | 76 | 521 | 125. | 1.0 | 39.5 | 521 | 125.00 |
| 41 | 776.0 | 25.2 | 23 | 53 | 76 | 450 | 262. | 1.0 | 40.5 | 450 | 262.00 |
| 42 | 777.0 | 23.8 | 30 | 60 | 90 | 555 | 86. | 1.0 | 41.5 | 555 | 86.00 |
| 43 | 778.0 | 23.4 | 28 | 62 | 90 | 510 | 105. | 1.0 | 42.5 | 510 | 105.00 |
| 44 | 778.9 | 21.5 | 40 | 49 | 89 | 670 | 26. | 0.5 | 43.0 | 335 | 13.00 |
| | | | | | | | | Total | | 26,157 | |

* Sample not obtainable.

Oilfield Research Laboratories

SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

| Company | Lease | Broers | Well No. | | |
|-------------------------|--------------------------|---|--|---------------------------------------|------------------------------------|
| Ross Schoonover | | | 3 | | |
| Depth Interval, Feet | Feet of Core Analyzed | Average Permeability, Millidarcys | Permeability Capacity Ft. x Md. | | |
| 736.0 - 744.5 | 8.5 | 94.2 | 800.50 | | |
| 744.5 - 763.5 | 19.0 | 77.5 | 1470.00 | | |
| 763.5 - 779.0 | 12.5 | 59.5 | 742.00 | | |
| 736.0 - 779.0 | 40.0 | 75.3 | 3012.50 | | |
| Depth Interval, Feet | Feet of Core Analyzed | Average Percent Oil Saturation | Average Percent Water Saturation | Average Oil Content Bbl./A. Ft. | Total Oil Content Bbls./Acre |
| 736.0 - 744.5 | 8.5 | 28.2 | 45.6 | 440 | 3,739 |
| 744.5 - 763.5 | 19.0 | 45.5 | 35.4 | 751 | 14,270 |
| 763.5 - 779.0 | 15.5 | 33.2 | 51.5 | 525 | 8,148 |
| 736.0 - 779.0 | 43.0 | 37.6 | 43.3 | 608 | 26,157 |