



OILFIELD RESEARCH LABORATORIES

536 NORTH HIGHLAND - CHANUTE, KANSAS 66720 - PHONE (316) 431-2650

November 3, 1980

Warren Meats
R.R. #4
Yates Center, Kansas 66783

Gentlemen:

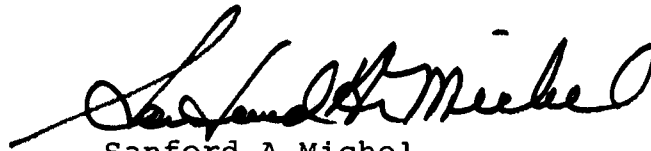
Enclosed herewith are the results of tests run on the rotary core taken from the Meats Lease, Well No. 1, located in Woodson County, Kansas.

The core was sampled and sealed in plastic bags by a representative of the client and submitted to our laboratory on September 26, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES



Sanford A. Michel

SAM/mkf

5 c. to Yates Center, Kansas

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GENERAL INFORMATION & SUMMARY

Company Warren Meats Lease Meats Well No. 1
 Location -
 Section - Twp. - Rge. - County Woodson State Kansas

| | |
|--|----------------|
| Elevation, Feet | - |
| Name of Sand | Lower Squirrel |
| Top of Core | 1169.0 |
| Bottom of Core | 1180.2 |
| Top of Sand | 1169.0 |
| Bottom of Sand | 1180.2 |
| Total Feet of Permeable Sand | 11.2 |

| Distribution of Permeable Sand: Permeability Range Millidarcys | Feet | Cum. Ft. |
|--|------|----------|
| 0 - 1 | 4.7 | 4.7 |
| 1 - 5 | 3.9 | 8.6 |
| 5 - 10 | 2.6 | 11.2 |

| | |
|--|--------|
| Average Permeability Millidarcys | 2.9 |
| Average Percent Porosity | 14.4 |
| Average Percent Oil Saturation | 49.0 |
| Average Percent Water Saturation | 31.2 |
| Average Oil Content, Bbls./A. Ft. | 577. |
| Total Oil Content, Bbls./Acre | 6,462. |

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LOG

Name Warren Meats Lease Meats Well No. 1

| <u>Depth Interval,</u> <u>Feet</u> | <u>Description</u> |
|---------------------------------------|---|
| 1169.0 - 1170.4 | Brown and gray laminated sandstone and shale. |
| 1170.4 - 1171.6 | Dark brown slightly shaly sandstone. |
| 1171.6 - 1180.2 | Grayish brown shaly sandstone. |

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Warren Meats Lease Meats Well No. 1

| 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. | | |
| 1 | 1169.5 | 14.6 | 61 | 24 | 85 | 691 | 6.7 | 1.4 | 1.4 | 967 | 9.38 |
| 2 | 1170.5 | 17.8 | 45 | 25 | 70 | 621 | 8.2 | 0.6 | 2.0 | 373 | 4.92 |
| 3 | 1171.5 | 16.0 | 59 | 30 | 89 | 732 | 8.7 | 0.6 | 2.6 | 439 | 5.22 |
| 4 | 1172.5 | 17.5 | 60 | 22 | 82 | 815 | 1.4 | 1.4 | 4.0 | 1141 | 1.96 |
| 5 | 1173.5 | 12.7 | 25 | 60 | 85 | 246 | 0.18 | 1.0 | 5.0 | 246 | 0.18 |
| 6 | 1174.5 | 14.3 | 55 | 28 | 83 | 610 | 0.73 | 1.0 | 6.0 | 610 | 0.73 |
| 7 | 1175.5 | 12.0 | 27 | 48 | 75 | 251 | 0.31 | 1.5 | 7.5 | 377 | 0.47 |
| 8 | 1177.5 | 14.3 | 70 | 9 | 79 | 777 | 4.7 | 1.5 | 9.0 | 1166 | 7.05 |
| 9 | 1178.5 | 14.7 | 62 | 18 | 80 | 707 | 2.6 | 1.0 | 10.0 | 707 | 2.60 |
| 10 | 1179.5 | 12.3 | 38 | 50 | 88 | 363 | 0.20 | 1.2 | 11.2 | 436 | 0.24 |

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

| Company | Warren Meats | | Lease Meats | | Well No. | |
|-------------------------|--------------------------|---|---------------------------------------|---|---------------------------------------|------------------------------------|
| Depth Interval, Feet | Feet of Core Analyzed | Average Permeability, Millidarcys | Permeability Capacity Ft. x Md. | Average Permeability, Millidarcys | Permeability Capacity Ft. x Md. | |
| Depth Interval, Feet | Feet of Core Analyzed | Average Percent Porosity | Average Percent Oil Saturation | Average Percent Water Saturation | Average Oil Content Bbl./A. Ft. | Total Oil Content Bbls./Acre |
| 1169.0 - 1180.2 | 11.2 | 14.4 | 49.0 | 31.2 | 577 | 6,462 |
| 1169.0 - 1180.2 | 11.2 | 14.4 | 49.0 | 31.2 | 577 | 6,462 |