



# OILFIELD RESEARCH LABORATORIES

536 NORTH HIGHLAND - CHANUTE, KANSAS - PHONE HE1-2650

December 17, 1968

Mr. M. C. McClure  
326 South Main  
El Dorado, Kansas 67042

Dear Sir:

Enclosed herewith are the results of tests run on the Rotary core taken from the Koenig Lease, Well No. 2, Woodson County, Kansas, and submitted to our laboratory on December 14, 1968.

This core is from a virgin territory and was sampled after it was received in the laboratory.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:dp

5 c. - El Dorado, Kansas

# Oilfield Research Laboratories

## GENERAL INFORMATION & SUMMARY

Company M. C. McClure Lease Koenig Well No. 2

Location SE NW

Section 5 Twp. 25S Rge. 16E County Woodson State Kansas

Name of Sand - - - - - Squirrel

Top of Core - - - - - 977.0

Bottom of Core - - - - - (Received) 988.7

Top of Sand - - - - - (Cored) 977.0

Bottom of Sand - - - - - Good 986.8

Total Feet of Permeable Sand - - - - - 11.0

Total Feet of Floodable Sand - - - - -

Distribution of Permeable Sand:  
Permeability Range  
Millidarcys

Feet

Cum. Ft.

|            |     |      |
|------------|-----|------|
| 0 - 10     | 3.9 | 3.9  |
| 10 - 50    | 3.4 | 7.3  |
| 50 & above | 3.7 | 11.0 |

Average Permeability Millidarcys - - - - - 34.9

Average Percent Porosity - - - - - 19.2

Average Percent Oil Saturation - - - - - 52.3

Average Percent Water Saturation - - - - - 24.5

Average Oil Content, Bbls./A. Ft. - - - - - 797.

Total Oil Content, Bbls./Acre - - - - - 8,763.

Average Percent Oil Recovery by Laboratory Flooding Tests - - - - -

Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. - - - - -

Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre - - - - -

Total Calculated Oil Recovery, Bbls./Acre - - - - -

Packer Setting, Feet - - - - -

Viscosity, Centipoises @ - - - - -

A. P. I. Gravity, degrees @ 60 °F - - - - -

Elevation, Feet - - - - -

-LOG-Company M. C. McClure Lease Koenig Well No. 2

| <u>Depth Interval,</u><br><u>Feet</u> | <u>Description</u>                             |
|---------------------------------------|------------------------------------------------|
| 977.0 - 982.0                         | Dark brown laminated shaly sandstone.          |
| 982.0 - 986.8                         | Dark brown slightly laminated shaly sandstone. |
| 986.8 - 988.0                         | Dark brown finely lamimated shaly sandstone.   |
| 988.0 - 988.7                         | Gray sandy shale.                              |

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## RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company M. C. McClure Lease Koenig Well No. 2

| 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          | 977.2       | 17.3                       | 51                 | 26    | 77    | 684                       | 6.3          | 0.7          | 0.7      | 479               | 4.41                     |
| 2          | 978.2       | 18.9                       | 60                 | 18    | 78    | 880                       | 9.9          | 1.0          | 1.7      | 880               | 9.90                     |
| 3          | 979.4       | 18.5                       | 61                 | 21    | 82    | 875                       | 12.          | 1.0          | 2.7      | 875               | 12.00                    |
| 4          | 980.1       | 13.9                       | 44                 | 47    | 91    | 474                       | 5.1          | 1.0          | 3.7      | 474               | 5.10                     |
| 5          | 981.3       | 21.6                       | 50                 | 19    | 69    | 838                       | 34.          | 1.3          | 5.0      | 1090              | 44.20                    |
| 6          | 982.3       | 21.3                       | 56                 | 16    | 72    | 925                       | 58.          | 0.7          | 5.7      | 648               | 40.60                    |
| 7          | 983.2       | 18.1                       | 56                 | 21    | 77    | 786                       | 70.          | 1.0          | 6.7      | 786               | 70.00                    |
| 8          | 984.3       | 20.3                       | 50                 | 23    | 73    | 904                       | 42.          | 1.1          | 7.8      | 994               | 46.20                    |
| 9          | 985.4       | 23.3                       | 51                 | 18    | 69    | 922                       | 60.          | 1.0          | 8.8      | 922               | 60.00                    |
| 10         | 986.3       | 20.6                       | 63                 | 20    | 83    | 1007                      | 89.          | 1.0          | 9.8      | 1007              | 89.00                    |
| 11         | 987.5       | 17.2                       | 38                 | 38    | 76    | 507                       | 2.1          | 1.2          | 11.0     | 608               | 2.52                     |

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## SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

| Company              |  | M. C. McClure         |  | Lease                             |  | Koenig                           |  | Well No. |  |
|----------------------|--|-----------------------|--|-----------------------------------|--|----------------------------------|--|----------|--|
| Depth Interval, Feet |  | Feet of Core Analyzed |  | Average Permeability, Millidarcys |  | Permeability Capacity, Ft. x Md. |  |          |  |
| 977.0 - 980.7        |  | 3.7                   |  | 8.5                               |  | 31.41                            |  |          |  |
| 980.7 - 988.0        |  | 7.3                   |  | 48.3                              |  | 352.52                           |  |          |  |
| 977.0 - 988.0        |  | 11.0                  |  | 34.9                              |  | 383.93                           |  |          |  |

| 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 |  |
|----------------------|--|-----------------------|--|--------------------------|--|--------------------------------|--|----------------------------------|--|---------------------------------|--|------------------------------|--|
| 977.0 - 980.7        |  | 3.7                   |  | 17.1                     |  | 54.2                           |  | 28.2                             |  | 732                             |  | 2,708                        |  |
| 980.7 - 988.0        |  | 7.3                   |  | 20.3                     |  | 51.4                           |  | 22.7                             |  | 830                             |  | 6,055                        |  |
| 977.0 - 988.0        |  | 11.0                  |  | 19.2                     |  | 52.3                           |  | 24.5                             |  | 797                             |  | 8,763                        |  |

OIL CONTENT,  
BBLs./A. FT.

WATER SAT.,  
PERCENT

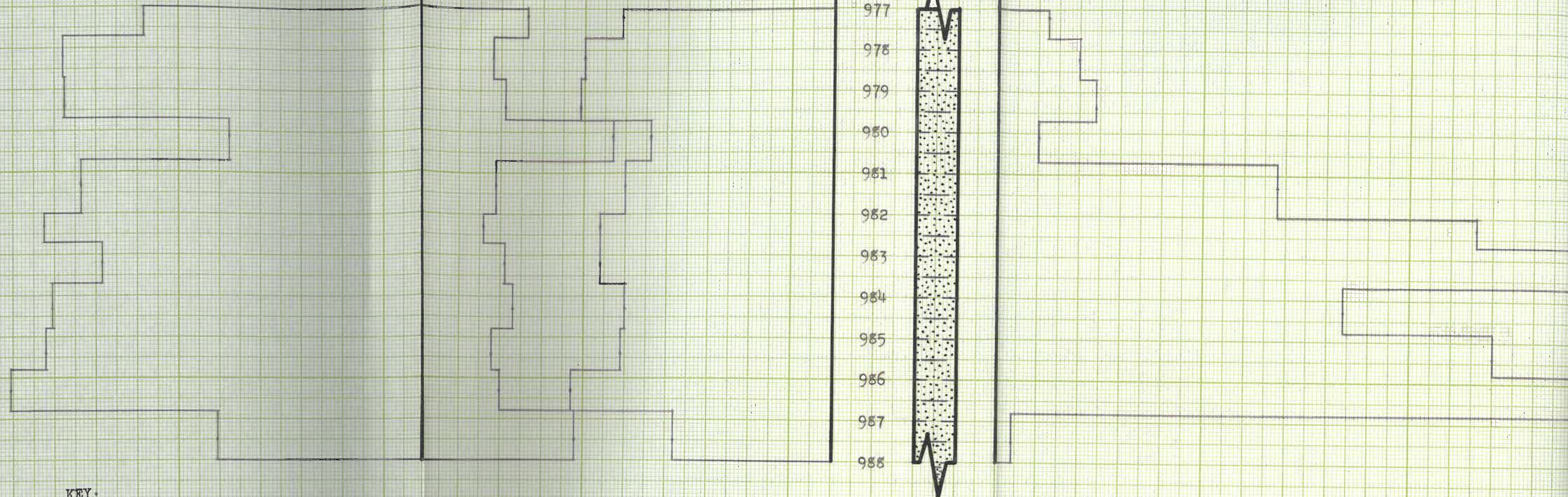
OIL SAT.,  
PERCENT

AIR PERMEABILITY, IN MILLIDARCYs

1,000 800 600 400 200

90 20 70 40 50 60 30 80 10

10 20 30 40 50 60



KEY:  
SHALY SANDSTONE

SANDY SHALE

## M. C. MC CLURE

KOENIG LEASE

WELL NO. 2

WOODSON COUNTY, KANSAS

| DEPTH INTERVAL,<br>FEET | FEET OF CORE<br>ANALYZED | AVERAGE<br>PERCENT<br>POROSITY | AVG. OIL<br>SATURATION<br>PERCENT | AVG. WATER<br>SATURATION<br>PERCENT | AVG. OIL<br>CONTENT<br>BBLs./A. FT. | TOTAL OIL<br>CONTENT<br>BBLs./ACRE | AVG. AIR<br>PERMEABILITY,<br>MILLIDARCYs |
|-------------------------|--------------------------|--------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|------------------------------------|------------------------------------------|
| 977.0 - 980.7           | 3.7                      | 17.1                           | 54.2                              | 28.2                                | 732                                 | 2,708                              | 8.5                                      |
| 980.7 - 988.0           | 7.3                      | 20.3                           | 51.4                              | 22.7                                | 830                                 | 6,055                              | 48.3                                     |
| 977.0 - 988.0           | 11.0                     | 19.2                           | 52.3                              | 24.5                                | 797                                 | 8,763                              | 34.9                                     |

WATER SAT.,  
PERCENT

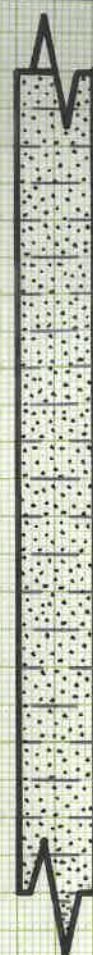
OIL SAT.,  
PERCENT

AIR PERMEABILITY, IN MILLIDARCYS

90 20 70 40 50 60 30 80 10

10 20 30 40 50 60 70 80 90 100 110 120

977  
978  
979  
980  
981  
982  
983  
984  
985  
986  
987  
988



 SANDY SHALE

**M. C. MC CLURE**

KOENIG LEASE WELL NO. 2  
WOODSON COUNTY, KANSAS

| DEPTH INTERVAL,<br>FEET | FEET OF CORE<br>ANALYZED | AVERAGE<br>PERCENT<br>POROSITY | AVG. OIL<br>SATURATION<br>PERCENT | AVG. WATER<br>SATURATION<br>PERCENT | AVG. OIL<br>CONTENT<br>BBL./A. FT. | TOTAL OIL<br>CONTENT<br>BBL./ACRE | AVG. AIR<br>PERMEABILITY,<br>MILLIDARCYS |
|-------------------------|--------------------------|--------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-----------------------------------|------------------------------------------|
| 977.0 - 980.7           | 3.7                      | 17.1                           | 54.2                              | 28.2                                | 732                                | 2,708                             | 8.5                                      |
| 980.7 - 988.0           | 7.3                      | 20.3                           | 51.4                              | 22.7                                | 830                                | 6,055                             | 48.3                                     |
| 977.0 - 988.0           | 11.0                     | 19.2                           | 52.3                              | 24.5                                | 797                                | 8,763                             | 34.9                                     |

OILFIELD RESEARCH LABORATORIES  
CHANUTE, KANSAS  
DECEMBER, 1968.