

# OILFIELD RESEARCH LABORATORIES

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

December 13, 1968

Tec Drilling Company, Inc.  
P. O. Box 693  
El Dorado, Kansas 67042

Gentlemen:

Enclosed herewith are the results of tests run on the Rotary core taken from the Stockebrand Lease, Well No. 5, Woodson County, Kansas, and submitted to our laboratory on December 12, 1968.

This core is from a virgin territory and was sampled and submitted to our laboratory by a representative of Oilfield Research Laboratories.

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 <u>Tec Drilling Company</u>                                       | Lease <u>Stockebrand</u> | Well No. <u>5</u>   |
| Location <u>NW NE SE</u>                                                  |                          |                     |
| Section <u>17</u> Twp. <u>25S</u> Rge. <u>16E</u>                         | County <u>Woodson</u>    | State <u>Kansas</u> |
| Name of Sand - - - - -                                                    |                          | Squirrel            |
| Top of Core - - - - -                                                     |                          | 921.0               |
| Bottom of Core - - - - -                                                  |                          | 939.0               |
| Top of <sup>Good</sup> Sand - - - - -                                     |                          | 924.1               |
| Bottom of <sup>Good</sup> Sand - - - - -                                  |                          | 931.3               |
| Total Feet of Permeable Sand - - - - -                                    |                          | 7.5                 |
| Total Feet of Floodable Sand - - - - -                                    |                          |                     |
| Distribution of Permeable Sand:                                           |                          |                     |
| Permeability Range<br>Millidarcys                                         | Feet                     | Cum. Ft.            |
| 0 - 25                                                                    | 0.7                      | 0.7                 |
| 25 - 50                                                                   | 4.3                      | 5.0                 |
| 50 & above                                                                | 2.5                      | 7.5                 |
|                                                                           |                          |                     |
| Average Permeability Millidarcys - - - - -                                |                          | 45.8                |
| Average Percent Porosity - - - - -                                        |                          | 17.0                |
| Average Percent Oil Saturation - - - - -                                  |                          | 53.3                |
| Average Percent Water Saturation - - - - -                                |                          | 24.6                |
| Average Oil Content, Bbls./A. Ft. - - - - -                               |                          | 724.                |
| Total Oil Content, Bbls./Acre - - - - -                                   |                          | 6,519.              |
| 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 Tec Drilling Company Lease Stockebrand Well No. 5

| <u>Depth Interval,</u><br><u>Feet</u> | <u>Description</u>              |
|---------------------------------------|---------------------------------|
| 921.0 - 922.9                         | Gray sandy shale.               |
| 922.9 - 923.3                         | Brown shaly sandstone.          |
| 923.3 - 923.6                         | Gray sandy shale.               |
| 923.6 - 924.1                         | Dark shaly sandstone.           |
| 924.1 - 926.1                         | Dark fine grained sandstone.    |
| 926.1 - 926.3                         | Gray sandy shale.               |
| 926.3 - 927.2                         | Dark shaly sandstone.           |
| 927.2 - 927.4                         | Gray sandy shale.               |
| 927.4 - 931.3                         | Dark fine grained sandstone.    |
| 931.3 - 931.6                         | Dark micaceous shaly sandstone. |
| 931.6 - 932.6                         | Gray micaceous shaly sandstone. |
| 932.6 - 934.0                         | Gray sandy shale.               |
| 934.0 - 939.0                         | Shale (discarded at well).      |

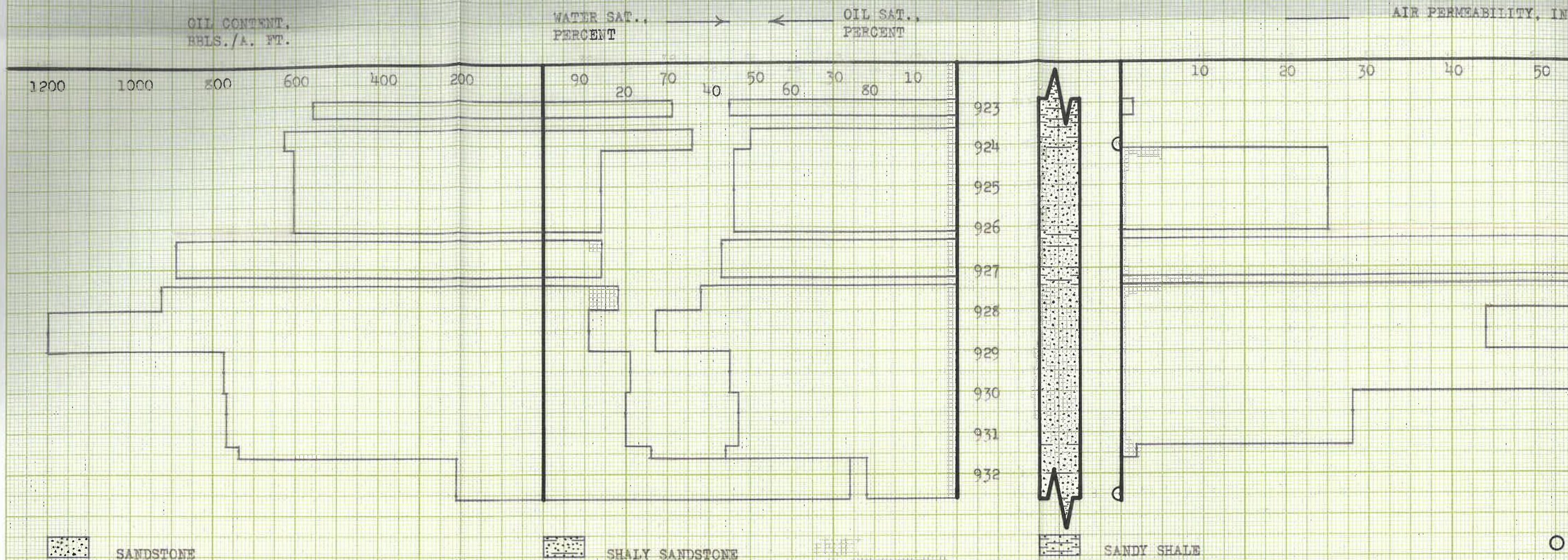
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## RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Tec Drilling Company Lease Stockebrand Well No. 5

| 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. |                   |                          |
| N-1        | 923.0       | 13.0                       | 55                 | 31    | 86    | 559                       | 1.5          | 0.4          | 0.4      | 224               | 0.60                     |
| 2          | 924.0       | 16.2                       | 50                 | 36    | 86    | 629                       | Imp.         | 0.5          | 0.9      | 314               | 0.00                     |
| 3          | 925.1       | 14.4                       | 54                 | 14    | 68    | 604                       | 25.          | 2.0          | 2.9      | 1208              | 50.00                    |
| 4          | 926.4       | 20.2                       | 57                 | 14    | 71    | 893                       | 59.          | 0.9          | 3.8      | 804               | 53.10                    |
| 5          | 927.5       | 19.3                       | 62                 | 18    | 80    | 928                       | 96.          | 0.6          | 4.4      | 557               | 57.60                    |
| 6          | 928.5       | 21.2                       | 73                 | 11    | 84    | 1201                      | 44.          | 1.0          | 5.4      | 1201              | 44.00                    |
| 7          | 929.5       | 18.2                       | 55                 | 21    | 76    | 776                       | 101.         | 1.0          | 6.4      | 776               | 101.00                   |
| 8          | 930.5       | 18.7                       | 53                 | 20    | 73    | 769                       | 28.          | 1.3          | 7.7      | 1000              | 36.40                    |
| 9          | 931.4       | 17.0                       | 56                 | 26    | 82    | 739                       | 1.8          | 0.3          | 8.0      | 222               | 0.54                     |
| 10         | 932.5       | 12.5                       | 22                 | 74    | 96    | 213                       | Imp.         | 1.0          | 9.0      | 213               | 0.00                     |



# TEC DRILLING COMPANY

STOCKBRAND LEASE

WOODSON COUNTY, KANSAS

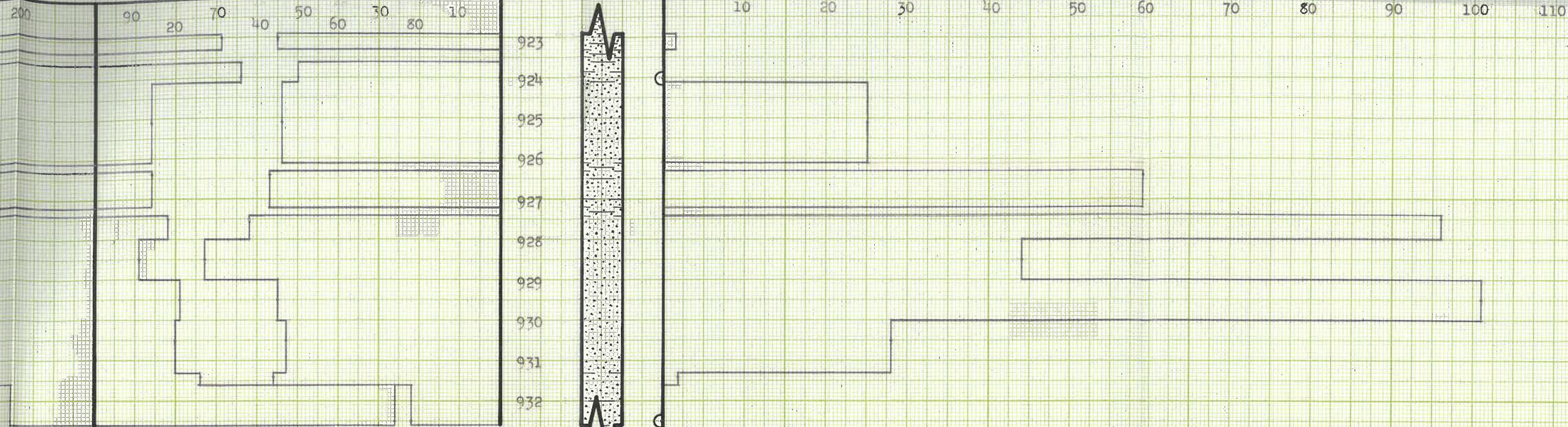
WELL NO. 5

| DEPTH INTERVAL, FEET | FEET OF CORE ANALYZED | AVERAGE PERCENT POROSITY | AVG. OIL SATURATION PERCENT | AVG. WATER SATURATION PERCENT | AVG. OIL CONTENT BBLs./A. FT. | TOTAL OIL CONTENT BBLs./ACRE |
|----------------------|-----------------------|--------------------------|-----------------------------|-------------------------------|-------------------------------|------------------------------|
| 922.9 - 932.6        | 9.0                   | 17.0                     | 53.3                        | 24.6                          | 724                           | 6,519                        |

WATER SAT.,  
PERCENT

OIL SAT.,  
PERCENT

AIR PERMEABILITY, IN MILLIDARCYs



# TEC DRILLING COMPANY

STOCKEBRAND LEASE

WOODSON COUNTY KANSAS

WELL NO. 5

| DEPTH INTERVAL,<br>FEET | FEET OF CORE<br>ANALYZED | AVERAGE 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 |
|-------------------------|--------------------------|-----------------------------|-----------------------------------|-------------------------------------|------------------------------------|------------------------------------|-----------------------------------------|
| 922.9 - 932.6           | 9.0                      | 17.0                        | 53.3                              | 24.6                                | 724                                | 6,519                              | 45.8                                    |