

OILFIELD RESEARCH LABORATORIES

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

December 8, 1967

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

Gentlemen:

Enclosed herewith are the results of tests run on the Rotary cores taken from the Coffield Lease, Well No. 4, Woodson County, Kansas, and submitted our laboratory on December 5 & 6, 1967.

This core is from a virgin territory and was sampled and the samples sealed in cans by a representative of Oilfield Research Laboratories.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl L. Pate

CLP;bjo

5 c. - El Dorado, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company TEC Drilling Company, Inc. Lease Coffield Well No. 4

Location SW, SW, NW

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

Name of Sand - - - - - Upper Squirrel

Top of Core - - - - - 868.0

Bottom of Core - - - - - 887.0

Top of ^{Pay}Sand - - - - - 869.2

Bottom of Sand - - - - - 879.2

Total Feet of Permeable Sand - - - - - 11.2

Total Feet of Floodable Sand - - - - -

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 5	1.2	1.2
5 - 10	4.9	6.1
10 - 15	3.5	9.6
15 & above	1.6	11.2

Average Permeability Millidarcys - - - - - 9.8

Average Percent Porosity - - - - - 17.8

Average Percent Oil Saturation - - - - - 52.7

Average Percent Water Saturation - - - - - 28.7

Average Oil Content, Bbls./A. Ft. - - - - - 728.

Total Oil Content, Bbls./Acre - - - - - 8,156.

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 - - - - -

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company TEC Drilling Company, Inc. Lease Coffield Well No. 4

Location SW, SW, NW

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

Name of Sand - - - - - Lower Squirrel

Top of Core - - - - - 918.0

Bottom of Core - - - - - 938.0

Top of Sand - - (Cored) - - - - - 918.0

Good
Bottom of Sand - - - - - 928.7

Total Feet of Permeable Sand - - - - - 10.7

Total Feet of Floodable Sand - - - - -

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 50	1.7	1.7
50 - 100	6.0	7.7
100 & above	3.0	10.7

Average Permeability Millidarcys - - - - - 101.4

Average Percent Porosity - - - - - 20.8

Average Percent Oil Saturation - - - - - 61.2

Average Percent Water Saturation - - - - - 16.2

Average Oil Content, Bbls./A. Ft. - - - - - 987.

Total Oil Content, Bbls./Acre - - - - - 10,556.

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, Inc. Lease Coffield Well No. 4Depth Interval, Description
Feet

UPPER SQUIRREL SAND

868.0 - 869.2 - Gray & brown finely laminated shaly sandstone.

869.2 - 879.2 - Brown to dark brown slightly shaly sandstone.

879.2 - 880.0 - Gray shale.

880.0 - 887.0 - Gray shale (discarded at well).

LOWER SQUIRREL SAND

918.0 - 919.0 - Dark brown slightly laminated shaly sandstone.

919.0 - 923.2 - Dark brown sandstone.

923.2 - 928.7 - Dark brown slightly laminated shaly sandstone.

928.7 - 929.0 - Dark brown carbonaceous sandstone.

929.0 - 931.0 - Shaly sandstone.

931.0 - 938.0 - Sandy shale.

Oilfield Research Laboratories

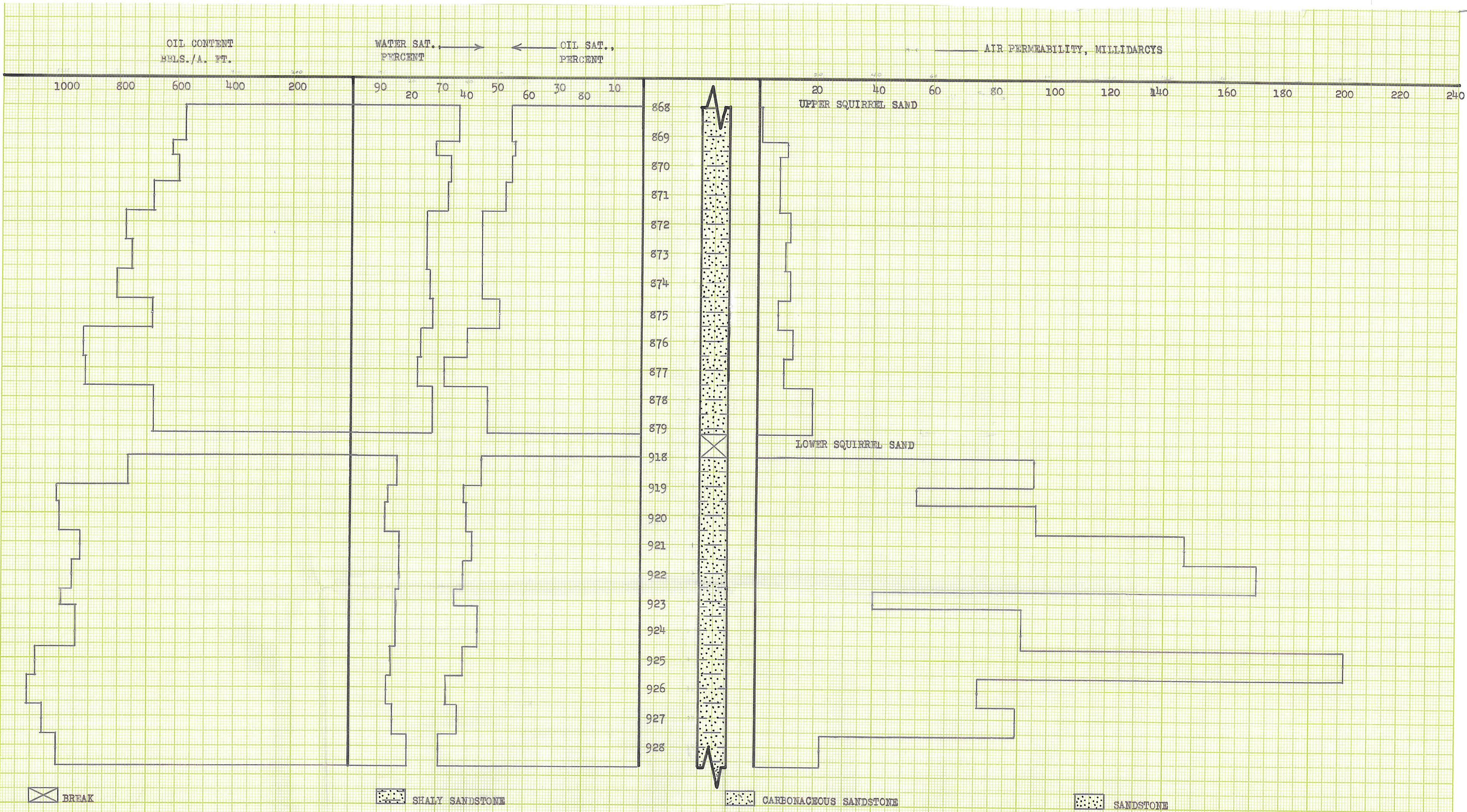
RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company TEC Drilling Company, Inc. Lease Coffield Well No. 4

UPPER SQUIRREL SAND

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	868.1	16.4	45	37	82	572	1.2	1.2	1.2	686	1.44
2	869.3	18.1	44	29	74	618	10.	0.5	1.7	309	5.00
3	870.1	17.0	45	34	79	594	7.6	0.9	2.6	534	6.84
4	871.1	18.7	47	33	80	682	7.4	1.0	3.6	682	7.40
5	872.1	18.2	55	26	81	776	11.	1.0	4.6	776	11.00
6	873.1	17.7	55	26	81	755	9.4	1.0	5.6	755	9.40
7	874.1	18.9	55	27	82	806	11.	1.0	6.6	806	11.00
8	875.1	18.0	49	28	77	684	6.8	1.0	7.6	684	6.80
9	876.1	19.8	60	24	84	922	12.	1.0	8.6	922	12.00
10	877.1	17.4	68	23	91	918	8.8	1.0	9.6	918	8.80
11	878.1	16.5	53	28	81	678	19.	1.6	11.2	1084	30.40
LOWER SQUIRREL SAND											
12	918.1	17.9	55	16	71	764	95.	1.0	1.0	764	95.00
13	919.1	21.4	61	13	74	1012	55.	0.6	1.6	607	33.00
14	920.1	21.5	60	12	72	1001	96.	1.0	2.6	1001	96.00
15	921.1	20.7	58	17	75	932	147.	1.0	3.6	932	147.00
16	922.1	20.3	61	17	78	960	172.	1.0	4.6	960	172.00
17	923.1	20.1	64	16	80	998	40.	0.6	5.2	599	24.00
18	924.1	21.8	56	16	72	947	91.	1.4	6.6	1325	127.30
19	925.1	22.9	61	14	75	1083	202.	1.0	7.6	1083	202.00
20	926.1	21.4	67	13	80	1112	76.	1.0	8.6	1112	76.00
21	927.1	21.6	63	15	78	1060	89.	1.0	9.6	1060	89.00
22	928.1	18.9	69	20	89	1012	22.	1.1	10.7	1113	24.20



TEC DRILLING COMPANY, INC.
COFFIELD LEASE WELL NO. 4
WOODSON COUNTY, KANSAS

DEPTH INTERVAL FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVG. OIL CONTENT BBLs./A. FT.	TOTAL OIL CONTENT BBLs./ACRE	AVG. AIR PERMEABILITY MILLIDARCYS
UPPER SQUIRREL SAND							
868.0 - 879.2	11.2	17.8	52.7	28.7	728	8,156	9.8
LOWER SQUIRREL SAND							
918.0 - 928.7	10.7	20.8	61.2	16.2	987	10,556	101.4

OILFIELD RESEARCH LABORATORIES
CHANUTE, KANSAS
DECEMBER, 1967

KEUFFEL & ESSER CO.
MADE IN U.S.A.

STANDARD CROSS SECTION
MILLIMETER