

OILFIELD RESEARCH LABORATORIES

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

February 14, 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 cores taken from the Coffield Lease, Well No. 6, Woodson County, Kansas, and submitted to our laboratory on February 10th and 11th, 1968.

These cores are from a virgin territory and were sampled and the samples sealed in tin 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

- REGISTERED ENGINEERS -

CORE ANALYSIS - WATER ANALYSIS - REPRESSURING ENGINEERING - SURVEYING & MAPPING - PROPERTY EVALUATION & OPERATION

110-25-110 E

Coffield 6

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company TEC Drilling Company, Inc. Lease Coffield Well No. 6

Location NE, NW, SW

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

Name of Sand - - - - - Upper Squirrel

Top of Core - - - - - 870.0

Bottom of Core - - - - - 888.0

Top of Sand - (Cored) - - - - - 870.0

Bottom of Sand - - - - - 884.2

Total Feet of Permeable Sand - - - - - 12.3

Total Feet of Floodable Sand - - - - -

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 10

1.9

1.9

10 - 20

5.8

7.7

20 - 30

1.6

9.3

30 & above

3.0

12.3

Average Permeability Millidarcys - - - - - 19.8

Average Percent Porosity - - - - - 18.2

Average Percent Oil Saturation - - - - - 53.5

Average Percent Water Saturation - - - - - 27.3

Average Oil Content, Bbls./A. Ft. - - - - - 756.

Total Oil Content, Bbls./Acre - - - - - 10,051.

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 - - - - -

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GENERAL INFORMATION & SUMMARY

Company TEC Drilling Company, Inc. Lease Coffield Well No. 6

Location NE, NW, SW

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

Name of Sand - - - - - Lower Squirrel

Top of Core - - - - - 910.0

Bottom of Core - - (Recovered) - - - - - 923.7

Top of Sand - - - - - 910.0

Bottom of ^{Pay}Sand - - - - - 922.0

Total Feet of Permeable Sand - - - - - 13.0

Total Feet of Floodable Sand - - - - -

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 50	7.8	7.8
50 - 75	3.0	10.8
75 & above	2.2	13.0

Average Permeability Millidarcys - - - - - 55.0

Average Percent Porosity - - - - - 20.2

Average Percent Oil Saturation - - - - - 58.2

Average Percent Water Saturation - - - - - 17.8

Average Oil Content, Bbls./A. Ft. - - - - - 898.

Total Oil Content, Bbls./Acre - - - - - 11,678.

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

- LOG -

Company TEC Drilling Company, Inc. Lease Coffield Well No. 6

Depth	Interval,	Description
Feet	Feet	

UPPER SQUIRREL SAND

870.0	- 871.3	- Dark slightly shaly sandstone.
871.3	- 872.2	- Light brown laminated shaly sandstone.
872.2	- 880.5	- Dark fine grained slightly shaly sandstone.
880.5	- 881.5	- Brown laminated sandstone and shale.
881.5	- 882.4	- Gray laminated sandy shale.
882.4	- 884.2	- Dark brown sandstone.
884.2	- 884.5	- Dark laminated sandstone and shale.
884.5	- 888.0	- Loss.

LOWER SQUIRREL SAND

910.0	- 910.6	- Dark fine grained shaly sandstone.
910.6	- 912.2	- Dark fine grained sandstone.
912.2	- 912.6	- Gray and dark laminated shaly sandstone.
912.6	- 914.2	- Dark sandstone.
914.2	- 915.4	- Dark laminated shaly sandstone.
915.4	- 922.0	- Dark fine grained slightly shaly sandstone.
922.0	- 923.4	- Dark carbonaceous sandstone.
923.4	- 923.7	- Gray sandy shale.
923.7	- 925.0	- Loss

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company TEC Drilling Company, Inc. Lease Coffield Well No. 6

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			Ft.	Cum. Ft.		
1	870.1	19.3	52	44	96	42.	0.6	0.6	467	25.20
2	871.1	20.2	60	18	78	12.	0.7	1.3	659	7.20
3	872.1	16.3	57	38	95	6.8	0.9	2.2	651	6.12
4	873.1	19.8	46	26	72	35.	1.4	3.6	988	49.00
5	874.1	16.5	59	24	83	22.	1.0	4.6	755	22.00
6	875.1	20.2	59	25	84	39.	1.0	5.6	924	39.00
7	876.1	17.3	49	26	75	12.	1.0	6.6	654	12.00
8	877.1	17.4	52	28	80	12.	1.0	7.6	702	12.00
9	878.1	17.6	46	27	73	12.	1.0	8.6	628	12.00
10	879.1	16.9	47	28	75	4.9	1.0	9.6	617	4.90
11	880.1	18.6	56	26	82	19.	0.9	10.5	728	17.10
12	881.1	18.4	61	32	93	Imp.	1.0	11.5	871	0.00
13	883.1	19.5	52	21	73	17.	1.2	12.7	944	20.40
14	884.1	16.3	61	25	86	27.	0.6	13.3	463	16.20
					UPPER SAND					
					779					

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company TEC Drilling Company, Inc. Lease Coffield Well No. 6

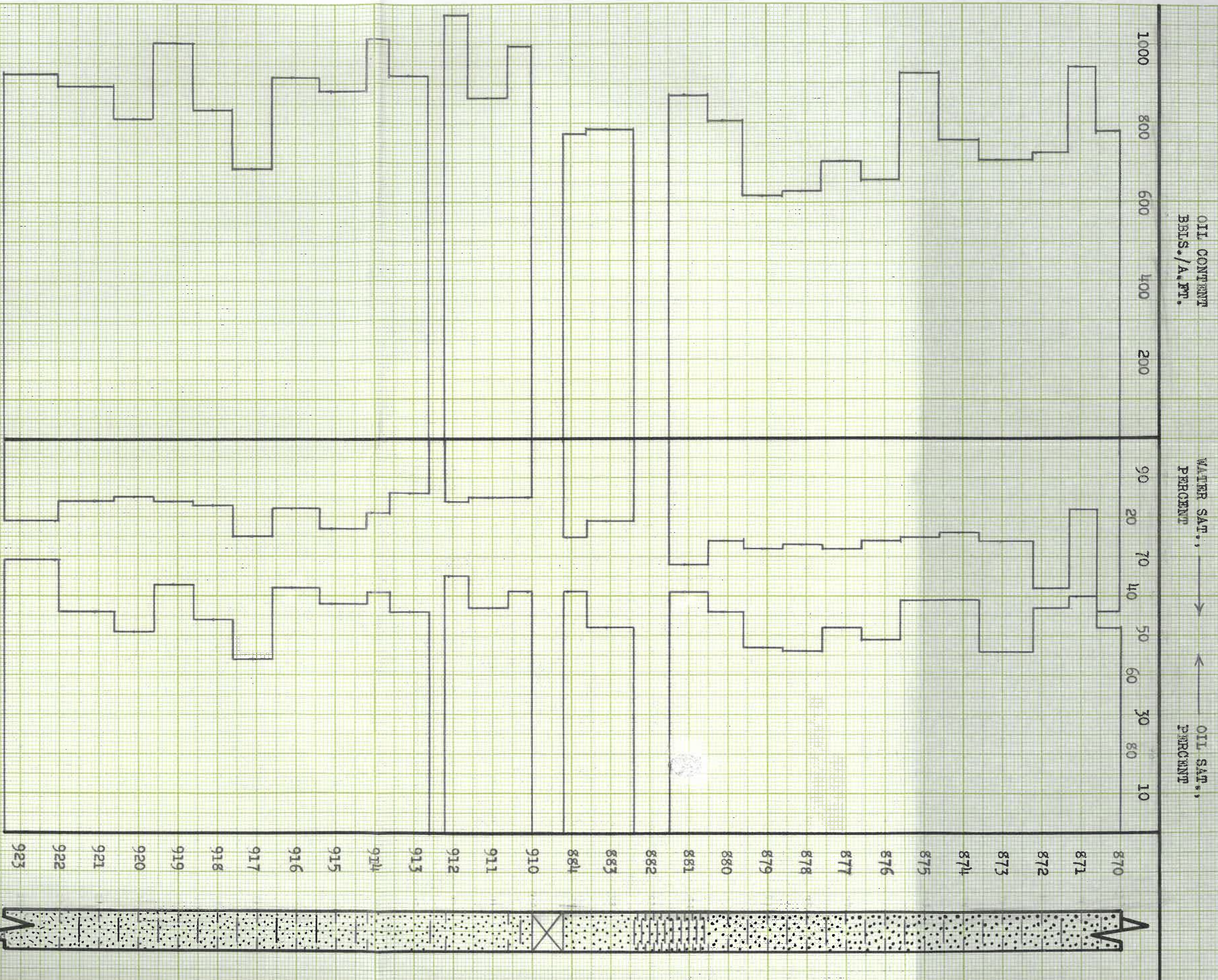
Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation		Oil Content Bbls. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water			Ft.	Cum. Ft.		
					<u>LOWER SAND</u>					
15	910.1	21.0	61	15	994	101.	0.6	0.6	596	60.60
16	911.1	19.6	57	15	867	28.	1.0	1.6	867	28.00
17	912.1	21.3	65	16	1074	199.	0.6	2.2	644	119.40
18	913.1	21.2	56	14	921	47.	1.0	3.2	921	47.00
19	914.1	21.4	61	19	1013	74.	0.6	3.8	608	44.40
20	915.1	19.6	58	23	882	12.	1.2	5.0	1068	14.40
21	916.1	19.1	62	18	919	47.	1.2	6.2	1102	56.40
22	917.1	20.1	44	25	687	58.	1.0	7.2	687	58.00
23	918.1	19.9	54	17	836	28.	1.0	8.2	836	28.00
24	919.1	20.5	63	16	1002	128.	1.0	9.2	1002	128.00
25	920.1	23.3	51	15	811	46.	1.0	10.2	811	46.00
26	921.1	20.5	56	16	891	55.	1.4	11.6	1247	77.00
27	922.1	17.2	69	21	921	5.2	1.4	13.0	1289	7.28

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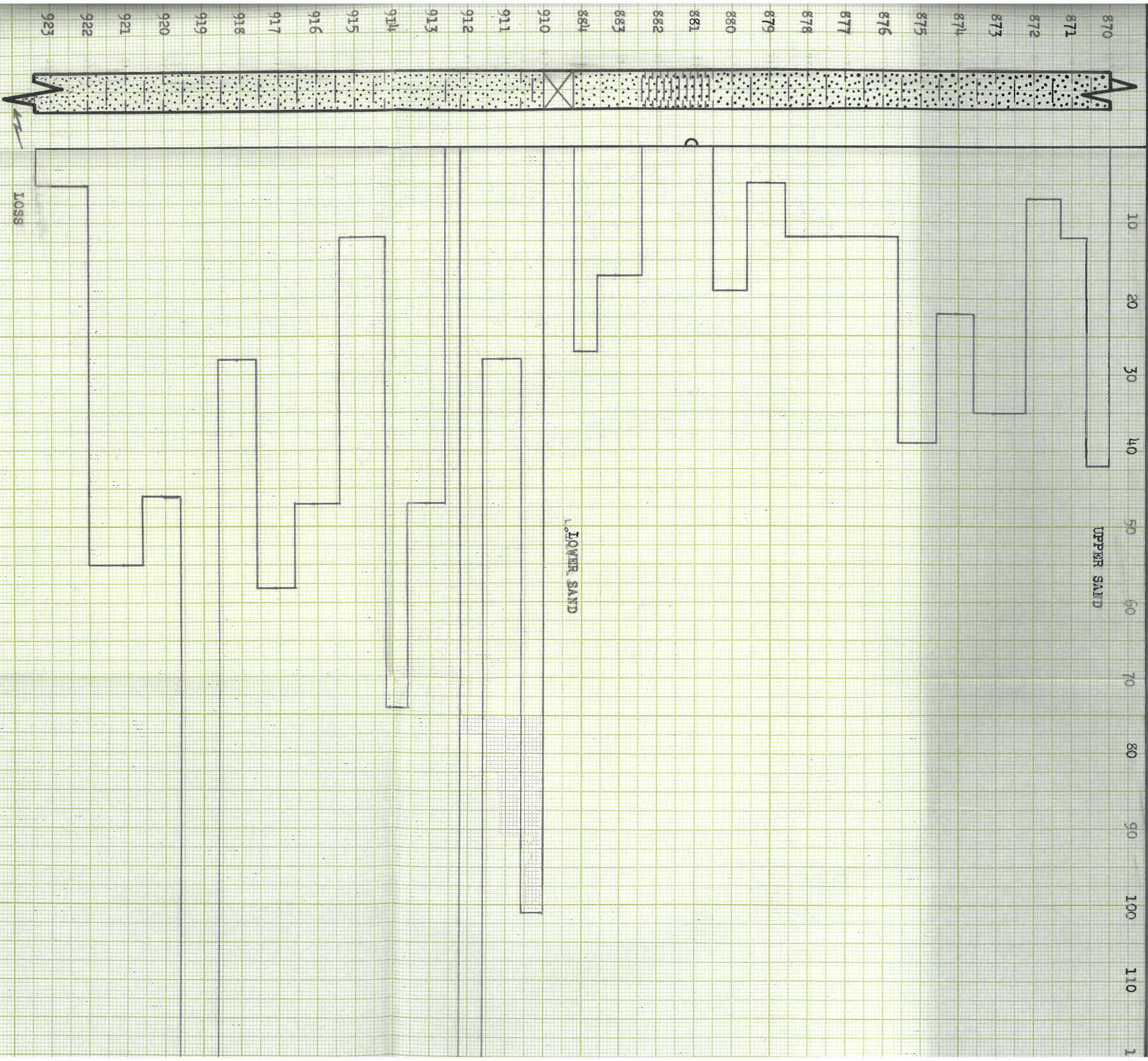
SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	TEC Drilling Company, Inc.		Lease	Coffield	Well No.	6
	Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
			<u>UPPER SAND</u>			
	870.0 - 884.2	12.3	19.8	243.12		
			<u>LOWER SAND</u>			
	910.0 - 923.4	13.0	55.0	714.48		
	Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Total Oil Content Bbls./Acre
			<u>UPPER SAND</u>			
	870.0 - 884.2	13.3	18.2	53.5	27.3	756.
			<u>LOWER SAND</u>			
	910.0 - 923.4	13.0	20.2	58.2	17.8	898.
						10,051.
						11,678.



AIR PERMEABILITY, MILLIDARCYs



DRILLING COMPANY

FIELD LEASE
WOODSON COUNTY, KANSAS

WELL NO. 6	AVG. WATER SATURATION PERCENT	AVG. OIL CONTENT BHLS./A. FT.	TOTAL OIL CONTENT BHLS./ACRE	AVG. AIR PERMEABILITY MILLIDARCYs
27.3	756.	10,051	19.8	
17.8	898.	11,678.	55.0	

SANDY SHALE
BREAK
IMPERMEABLE TO AIR