

OILFIELD RESEARCH LABORATORIES

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

January 23, 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 Stockebrand Lease, Well No. 2, Woodson County, Kansas, and submitted to our laboratory on January 18th and 19th, 1968.

These cores were taken from a virgin territory. The upper core was sampled and the samples sealed in plastic bags by a representative of Oilfield Research Laboratories. The lower core was sampled and the samples were sealed in plastic bags by a representative of the client.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:bjo

5 c. - El Dorado, Kansas

17-25-10E

Stockebrand 2

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company TEC Drilling Company, Inc. Lease Stoeckeband Well No. 2

Location NE, SE, SE

Section 17 Twp. 25S Rge. 16E County Woodson State Kansas

Name of Sand - - - - - Upper Squirrel

Top of Core - - - - - 872.0

Bottom of Core - - - - - 891.0

Top of Sand - - - (Cored) - - - 872.0

Bottom of Sand - - - - - 877.4

Total Feet of Permeable Sand - - - - - 3.6

Total Feet of Floodable Sand - - - - -

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 1

2.2

2.2

1 & above

1.4

3.6

Average Permeability Millidarcys - - - - - 2.1

Average Percent Porosity - - - - - 13.8

Average Percent Oil Saturation - - - - - 57.3

Average Percent Water Saturation - - - - - 31.9

Average Oil Content, Bbls./A. Ft. - - - - - 609.

Total Oil Content, Bbls./Acre - - - - - 2,191.

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 Stoeckeband Well No. 2

Location NE, SE, SE,

Section 17 Twp. 25S Rge. 16E County Woodson State Kansas

Name of Sand - - - - - Lower Squirrel

Top of Core - - - - - 912.0

Bottom of Core - - - - - 929.7

Top of Sand - - - - - 914.0

Pay
Bottom of Sand - - - - - 925.3

Total Feet of Permeable Sand - - - - - 12.8

Total Feet of Floodable Sand - - - - -

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 25

2.5

2.5

25 - 50

5.6

8.1

50 - 75

1.7

9.8

75 & above

3.0

12.8

Average Permeability Millidarcys - - - - - 48.5

Average Percent Porosity - - - - - 16.8

Average Percent Oil Saturation - - - - - 55.4

Average Percent Water Saturation - - - - - 29.6

Average Oil Content, Bbls./A. Ft. - - - - - 766.

Total Oil Content, Bbls./Acre - - - - - 13,104.

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 Stockebrand Well No. 2Depth Interval, Description
Feet

UPPER SAND

872.0 - 873.4 - Brown slightly shaly sandstone.

873.4 - 874.9 - Light brown finely laminated shaly sandstone.

874.9 - 876.7 - Gray and light brown laminated sandstone and shale.

876.7 - 877.4 - Light brown laminated shaly sandstone.

877.4 - 878.2 - Gray sandy shale.

878.2 - 879.7 - Gray sandy shale.

879.7 - 891.0 - Dark sandy shale.

LOWER SAND

912.0 - 914.0 - Hard dark shaly limestone.

914.0 - 925.3 - Dark fine grained slightly shaly sandstone.

925.3 - 926.8 - Dark micaceous carbonaceous shaly sandstone.

926.8 - 929.7 - Gray shaly slightly carbonaceous sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company TEC Drilling Company, Inc. Lease Stokebrand Well No. 2

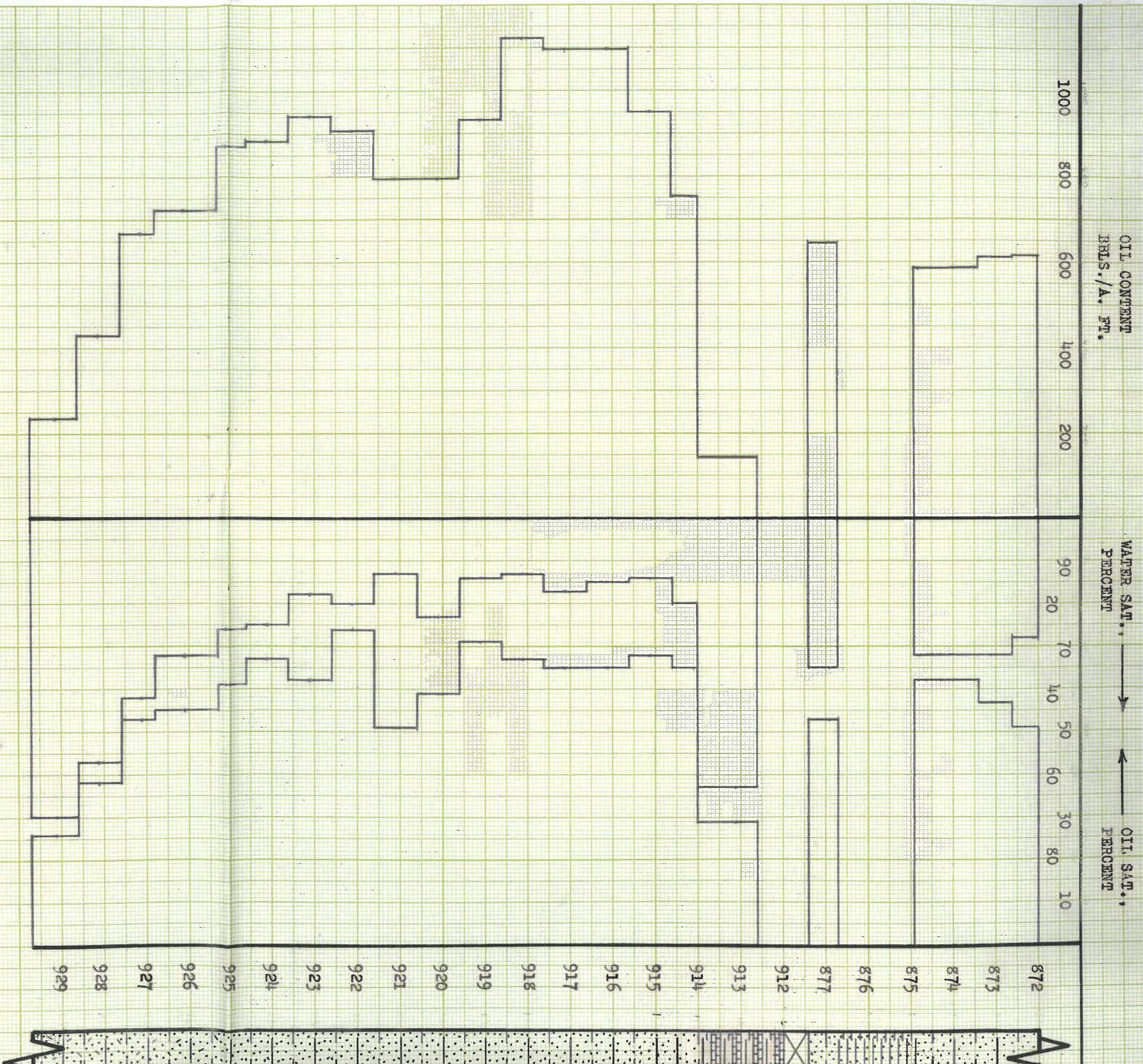
Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbls. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water	Total			Ft.	Cum. Ft.		
1	872.1	15.6	51	28	79	617	2.5	0.6	0.6	370	1.50
2	873.1	13.8	57	32	89	611	4.9	0.8	1.4	489	3.92
3	874.8	12.2	62	32	94	587	0.98	1.5	2.9	880	1.47
4	876.9	15.7	53	35	88	646	0.99	0.7	3.6	452	0.69
5	913.1	6.5	29	63	92	146	Imp.	1.4	5.0	204	0.00
6	914.1	14.9	65	20	85	752	33.	0.6	5.6	451	19.80
7	915.1	18.0	68	14	82	950	46.	1.0	6.6	950	46.00
8	916.1	21.8	65	15	80	1099	77.	1.0	7.6	1099	77.00
9	917.1	21.8	65	17	82	1099	140.	1.0	8.6	1099	140.00
10	918.1	21.6	67	13	80	1123	36.	1.0	9.6	1123	36.00
11	919.1	16.9	71	14	85	931	87.	1.0	10.6	931	87.00
12	920.1	17.4	59	23	82	796	38.	1.0	11.6	796	38.00
13	921.1	20.1	51	13	64	795	42.	1.0	12.6	795	42.00
14	922.1	15.8	74	20	94	907	24.	1.0	13.6	907	24.00
15	923.1	19.6	62	18	80	943	25.	1.0	14.6	943	25.00
16	924.1	17.0	67	25	92	884	50.	1.0	15.6	884	50.00
17	925.1	18.4	61	26	87	871	51.	0.7	16.3	610	35.70
18	926.1	17.0	55	32	87	726	0.36	1.5	17.8	1088	0.54
19	927.1	16.3	53	42	95	670	Imp.	0.8	18.6	536	0.00
20	928.1	14.6	38	57	95	431	Imp.	1.0	19.6	431	0.00
21	929.1	11.6	26	70	96	234	Imp.	1.1	20.7	257	0.00

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	TEC Drilling Company, Inc.	Lease	Stockebrand	Well No.	2
	Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	
			UPPER SAND		
	872.0 - 877.4	3.6	2.1	7.58	
			LOWER SAND		
	912.6 - 914.0	1.4	0.0	0.00	
	914.0 - 925.3	11.3	54.9	620.50	
	925.3 - 929.7	1.5	0.36	0.54	
	912.6 - 929.7	12.8	48.5	621.04	
			Average Percent Oil Saturation	Average Percent Water Saturation	Total Oil Content Bbls./Acre
			UPPER SAND		
	872.0 - 877.4	3.6	57.3	31.9	2,191.
			LOWER SAND		
	912.6 - 914.0	1.4	29.0	63.0	204.
	914.0 - 925.3	11.3	64.7	17.9	10,588.
	925.3 - 929.7	4.4	40.1	49.0	2,312.
	912.6 - 929.7	17.1	55.4	29.6	13,104.



KEY:

CARBONACEOUS SHALEY SANDSTONE

SHALY SANDSTONE

LAMINATED SANDSTONE AND SHALE

TEC DRILLING

STOCKBRAND LEASE
WOODSON COUNTY, KANS.

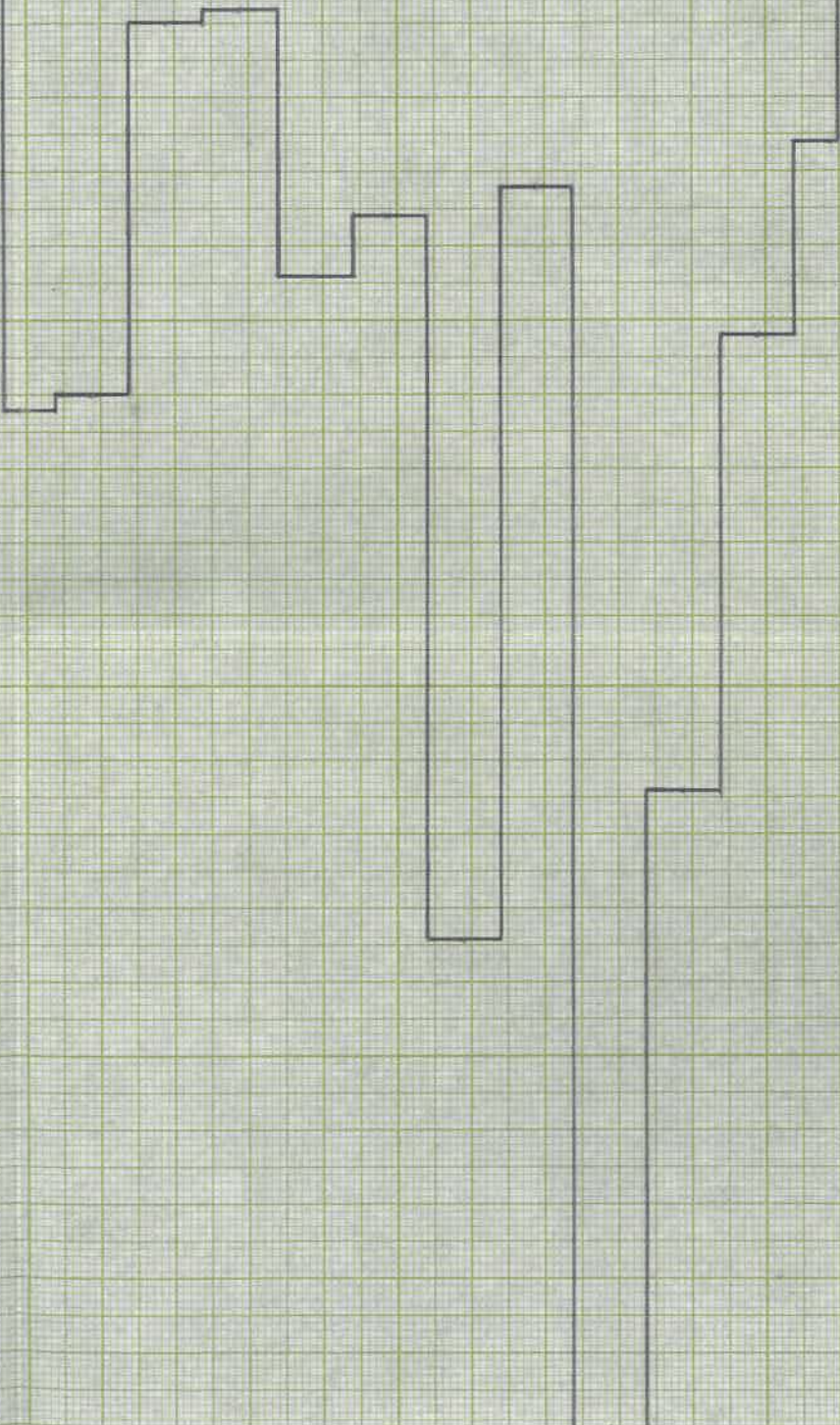
DEPTH INTERVAL FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT
UPPER SAND				
872.0 - 877.4	3.6	13.8	57.3	31.9
LOWER SAND				
912.6 - 914.0	1.4	6.5	29.0	63.0
914.0 - 925.3	11.3	18.7	64.7	17.9
925.3 - 929.7	4.4	15.0	40.1	49.0
912.6 - 929.7	17.1	16.8	55.4	29.6

AIR PERMEABILITY, MILLIDARCYs

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

UPPER SAND

LOWER SAND



140

STANDARD CROSS SECTION
MILLIMETER

SHALY LIMESTONE

○ IMPERMEABLE TO AIR

COMPANY

WELL NO. 2

USGS

AVG. OIL CONTENT	TOTAL OIL CONTENT	AVG. AIR PERMEABILITY
BBLs./A-FT.	BBLs./ACRE	MILLIDARCYs

609	2,191	2.1
146	204	0.0
938	10,588	54.9
525	2,312	0.36
766	13,104	48.5

OILFIELD RESEARCH LABORATORIES
CHANUTE, KANSAS
JANUARY, 1968