

OILFIELD RESEARCH LABORATORIES

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

April 13, 1968

5-25-10E

Stubbs & Fleming
680 Fourth National Building
Wichita, Kansas 67202

Gentlemen:

Enclosed herewith are the results of tests run on the Rotary cores taken from the Fulhage Lease, Well No. 3, Woodson County, Kansas, and submitted to our laboratory on April 11, 1968.

These cores are from a virgin territory. The "A" sand was sampled and submitted to our laboratory by a representative of the client. The "B" sand was sampled by a representative of Oilfield Research Laboratories.

The "B" or lower sand core was exposed to air approximately $1\frac{1}{2}$ hours before being sampled.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:bjo

4 c. - Wichita, Kansas

Fulhage 3

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Stubbs & Fleming Lease Fulhage Well No. 3

Location 110' W of C, W/2 SW SW

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

Name of Sand - - - - - Lower Squirrel "B"

Top of Core - - - - - 952.0

Bottom of Core - - - - - 974.0

Top of Sand - - - - - 954.7

Bottom of Sand - - (Analyzed) - - - - - 971.0

Total Feet of Permeable Sand - (Analyzed) - - - - - 14.6

Total Feet of Floodable Sand - - - - -

Distribution of Permeable Sand:

Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 25	3.1	3.1
25 - 50	5.9	9.0
50 - 100	3.7	12.7
100 & above	1.9	14.6

Average Permeability Millidarcys - - - - - 70.0

Average Percent Porosity - - - - - 19.8

Average Percent Oil Saturation - - - - - 56.8

Average Percent Water Saturation - - - - - 18.5

Average Oil Content, Bbls./A. Ft. - - - - - 874.

Total Oil Content, Bbls./Acre - - - - - 12,760.

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 Stubbs & Fleming Lease Fulhage Well No. 3

Depth	Interval,	Description
Feet		

UPPER SAND "A"

907.0	- 907.8	- Gray sandy shale.
907.8	- 909.3	- Brown shaly sandstone.
909.3	- 910.0	- Gray sandy shale.
910.0	- 912.0	- Core not received.
912.0	- 913.0	- Brown shaly sandstone.
913.0	- 915.0	- Brown slightly calcareous shaly sandstone.

LOWER SAND "B"

952.0	- 954.7	- Gray sandy shale.
954.7	- 955.0	- Brown shaly sandstone.
955.0	- 955.7	- Dark brown sandstone.
955.7	- 956.2	- Gray sandy shale.
956.2	- 963.5	- Dark brown slightly laminated shaly sandstone.
963.5	- 964.2	- Laminated shaly sandstone.
964.2	- 967.4	- Dark brown sandstone.
967.4	- 968.5	- Dark brown shaly sandstone.
968.5	- 969.5	- Dark carbonaceous sandstone.
969.5	- 970.0	- Sandy shale.
970.0	- 972.0	- Dark carbonaceous shaly sandstone.
972.0	- 974.0	- Sandy shale.

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

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.		
A	913.5	17.3	50	20	70	671	16.	1.0	1.0	671	16.00
						UPPER SAND					
						LOWER SAND					
1	955.1	15.6	56	15	71	678	46.	1.0	1.0	678	46.00
2	956.3	20.3	62	16	78	977	33.	0.5	1.5	488	16.50
3	957.1	19.3	60	15	75	898	61.	0.9	2.4	808	54.90
4	958.1	20.7	56	17	73	900	19.	1.0	3.4	900	19.00
5	959.1	21.4	62	16	78	1029	36.	1.0	4.4	1029	36.00
6	960.1	18.7	54	20	74	784	89.	1.0	5.4	784	89.00
7	961.1	20.8	56	20	76	904	44.	1.0	6.4	904	44.00
8	962.1	21.1	64	15	79	1048	34.	1.0	7.4	1048	34.00
9	963.1	20.9	54	18	72	876	41.	0.9	8.3	738	36.90
10	964.3	20.2	54	23	77	846	35.	0.5	8.8	423	17.50
11	965.1	19.2	60	16	76	894	346.	0.9	9.7	804	311.40
12	966.1	20.3	61	18	79	961	74.	1.0	10.7	961	74.00
13	967.1	22.1	61	16	77	1046	87.	0.8	11.5	837	69.60
14	968.1	16.6	41	31	72	528	3.8	1.1	12.6	581	4.18
15	969.1	22.9	56	14	70	995	153.	1.0	13.6	995	153.00
16	970.1	18.0	56	24	80	782	19.	1.0	14.6	782	19.00

Oilfield Research Laboratories

SUMMARY OF PERMEABILITY & SATURATION TESTS

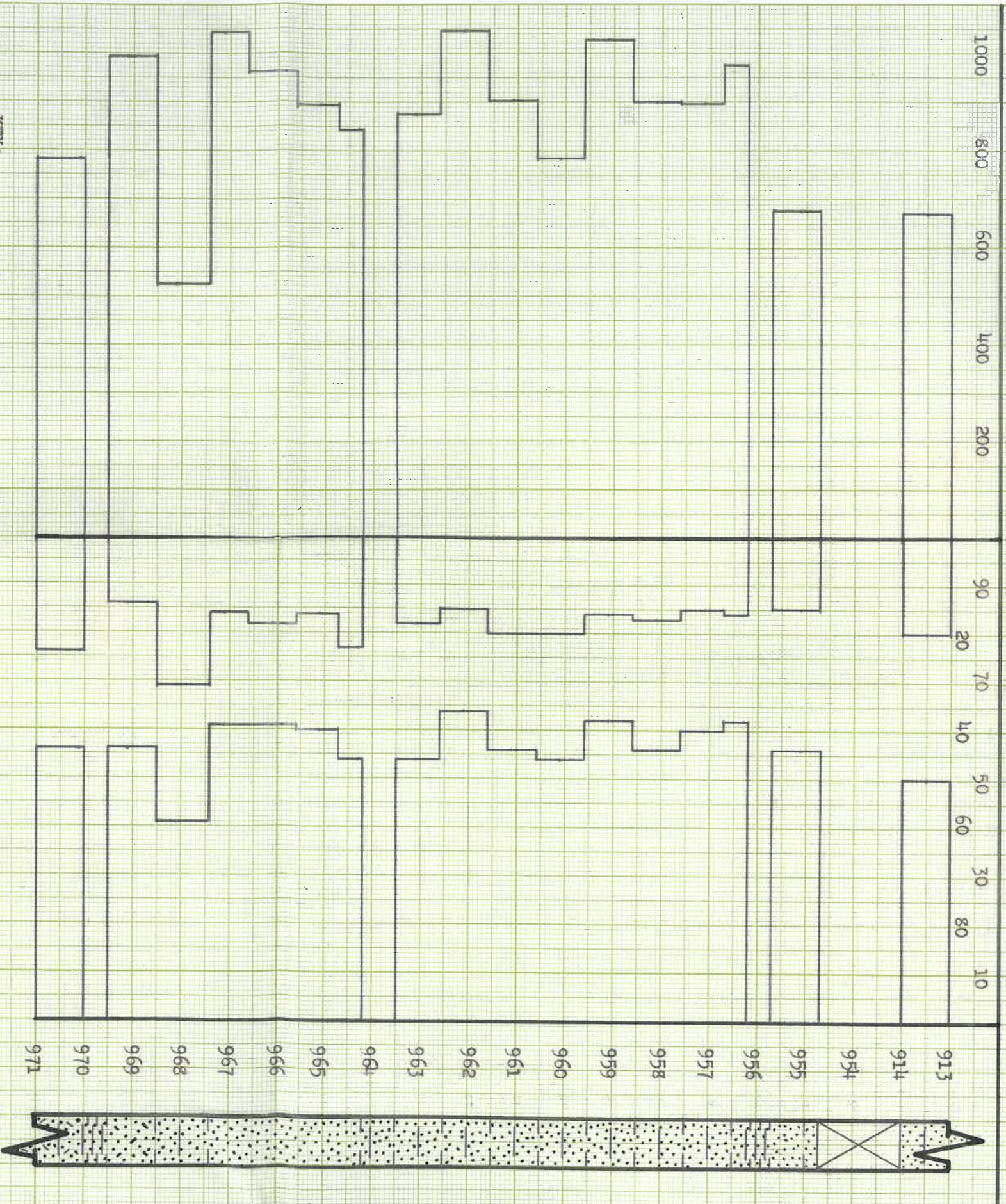
TABLE III

Company	Stubbs & Fleming	Lease	Fulhage	Well No.	3	
Depth Interval, Feet	Feet of Core Analyzed	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
LOWER SAND "B"						
954.7 - 967.4	11.5		73.8	848.80		
967.4 - 971.0	3.1		56.8	176.18		
954.7 - 971.0	14.6		70.0	1,024.98		
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
LOWER SAND "B"						
954.7 - 967.4	11.5	20.0	58.5	17.2	904.	10,402.
967.4 - 971.0	3.1	19.1	50.7	23.2	760.	2,358.
954.7 - 971.0	14.6	19.8	56.8	18.5	874.	12,760.

OIL CONTENT
BRLS./A. FT.

WATER SAT...
PERCENT

OIL SAT...
PERCENT



KEY:
BREAK
SANDSTONE

CARBONACEOUS SANDSTONE
CARBONACEOUS SHALY SANDSTONE

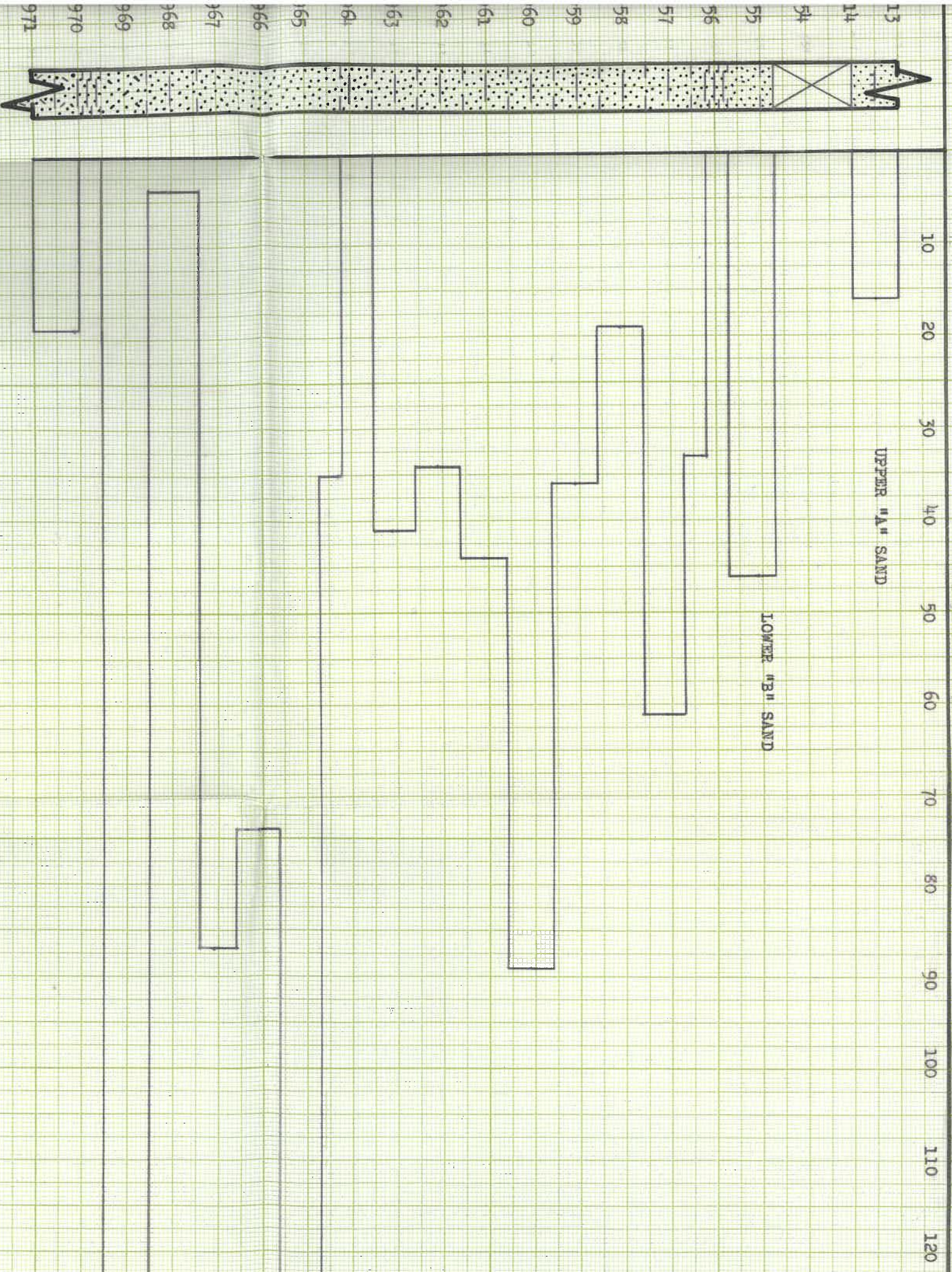
STUBBS

FLUKE LEASE
WOODSON COUN

DEPTH INTERVAL FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT
954.7 - 967.4	11.5	20.0	58.5	17.2
967.4 - 971.0	3.1	19.1	50.7	23.2
954.7 - 971.0	14.6	19.8	56.8	18.5

LOWER SAND "B"

AIR PERMEABILITY, MILLIDARCYs



SHALY SANDSTONE

CALCAREOUS SHALY SANDSTONE

SANDY SHALE

JBBS 8 FLEMING

WELL NO. 3
WOODSON COUNTY, KANSAS

AVG. WATER SATURATION PERCENT	AVG. OIL CONTENT BBLs./A. FT.	TOTAL OIL CONTENT BBLs./ACRE	AVG. AIR PERMEABILITY MILLIDARCYs
17.2	904.	10,402.	73.8
23.2	760.	2,358.	56.8
18.5	874.	12,760.	70.0

LOWER SAND "B"