

OILFIELD RESEARCH LABORATORIES

536 NORTH HIGHLAND · CHANUTE, KANSAS 66720 · PHONE (316) 431-2650

June 11, 1979

Glenn Caldwell
P.O. Box 42
Garnett, Kansas 66032

Gentlemen:

Enclosed herewith are the results of tests run on the rotary core taken from the South Unit Lease, Well No. 36, Anderson County, Kansas, and submitted to our laboratory on May 30, 1979.

The core was sampled by a representative of Oilfield Research Laboratories.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Benjamin R. Pearman
Benjamin R. Pearman

BRP:km
5 c to Garnett, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Glenn Caldwell Lease South Unit Well No. 36

Location NW SW SE

Section 10 Twp. 21S Rge. 21E County Anderson State Kansas

Name of Sand	Bartlesville
Top of Core	673.0
Bottom of Core	697.0
Top of Sand	673.0
Bottom of Sand	695.8
Total Feet of Permeable Sand	22.8
Total Feet of Floodable Sand	-

Distribution of Permeable Sand:
Permeability Range
Millidarcys

	Feet	Cum. Ft.
0 - 10	1.2	1.2
10 - 50	4.8	6.0
50 - 100	5.9	11.9
100 - 200	5.5	17.4
200 & Above	5.4	22.8

Average Permeability Millidarcys	129.9
Average Percent Porosity	21.4
Average Percent Oil Saturation	31.2
Average Percent Water Saturation	50.1
Average Oil Content, Bbls./A. Ft.	516.
Total Oil Content, Bbls./Acre	11,767.
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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LOG

Name Glenn Caldwell Lease South Unit Well No. 36

<u>Depth Interval, Feet</u>	<u>Description</u>
673.0 - 682.3	Dark brown sandstone containing a vertical fracture.
682.3 - 682.8	Light brown slightly shaly sandstone containing a vertical fracture.
682.8 - 690.4	Dark brown sandstone containing a vertical fracture.
690.4 - 691.2	Light brown slightly shaly sandstone.
691.2 - 692.1	Dark brown sandstone.
692.1 - 695.1	Light brown slightly shaly sandstone containing a vertical fracture.
695.1 - 695.8	Light brown slightly shaly sandstone containing a vertical fracture.
695.8 - 697.0	Gray sandy shale containing a vertical fracture.

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Glenn Caldwell Lease South Unit Well No. 36

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbbs. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water	Total			Ft.	Cum. Ft.		
1	673.5	24.2	36	37	73	676	135.	1.0	1.0	676	135.00
2	674.5	24.6	30	43	73	573	188.	1.0	2.0	573	188.00
3	675.5	20.2	34	46	80	533	23.	1.0	3.0	533	23.00
4	676.5	23.4	29	44	73	527	161.	1.0	4.0	527	161.00
5	677.5	24.9	39	34	73	753	364.	1.0	5.0	753	364.00
6	678.5	19.2	24	53	77	358	81.	1.0	6.0	358	81.00
7	679.5	20.5	33	49	82	525	68.	1.0	7.0	525	68.00
8	680.5	22.1	27	49	76	463	280.	1.0	8.0	463	280.00
9	681.5	21.5	28	47	75	467	180.	1.3	9.3	608	234.00
10	682.5	22.3	28	48	76	484	4.8	0.5	9.8	242	2.40
11	683.5	21.6	31	45	76	520	161.	1.2	11.0	624	193.20
12	684.5	20.1	31	53	84	483	77.	1.0	12.0	483	77.00
13	685.5	23.7	28	53	81	515	61.	1.0	13.0	515	61.00
14	686.5	22.3	31	46	77	536	256.	1.0	14.0	536	256.00
15	687.5	16.7	21	62	83	272	68.	1.0	15.0	272	68.00
16	688.5	19.9	30	64	94	463	253.	1.0	16.0	463	253.00
17	689.5	24.1	28	56	84	524	288.	1.4	17.4	734	403.20
18	690.5	20.5	28	62	90	445	13.	0.8	18.2	356	10.40
19	691.5	19.5	24	58	82	363	58.	0.9	19.1	327	52.20
20	692.5	19.6	44	46	90	669	20.	0.9	20.0	602	18.00
21	693.5	18.5	36	57	93	517	14.	1.0	21.0	517	14.00
22	694.5	20.1	45	46	91	702	14.	1.1	22.1	774	15.40
23	695.5	18.8	30	58	88	438	6.1	0.7	22.8	306	4.27

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SUMMARY OF PERMEABILITY & SATURATION TESTS

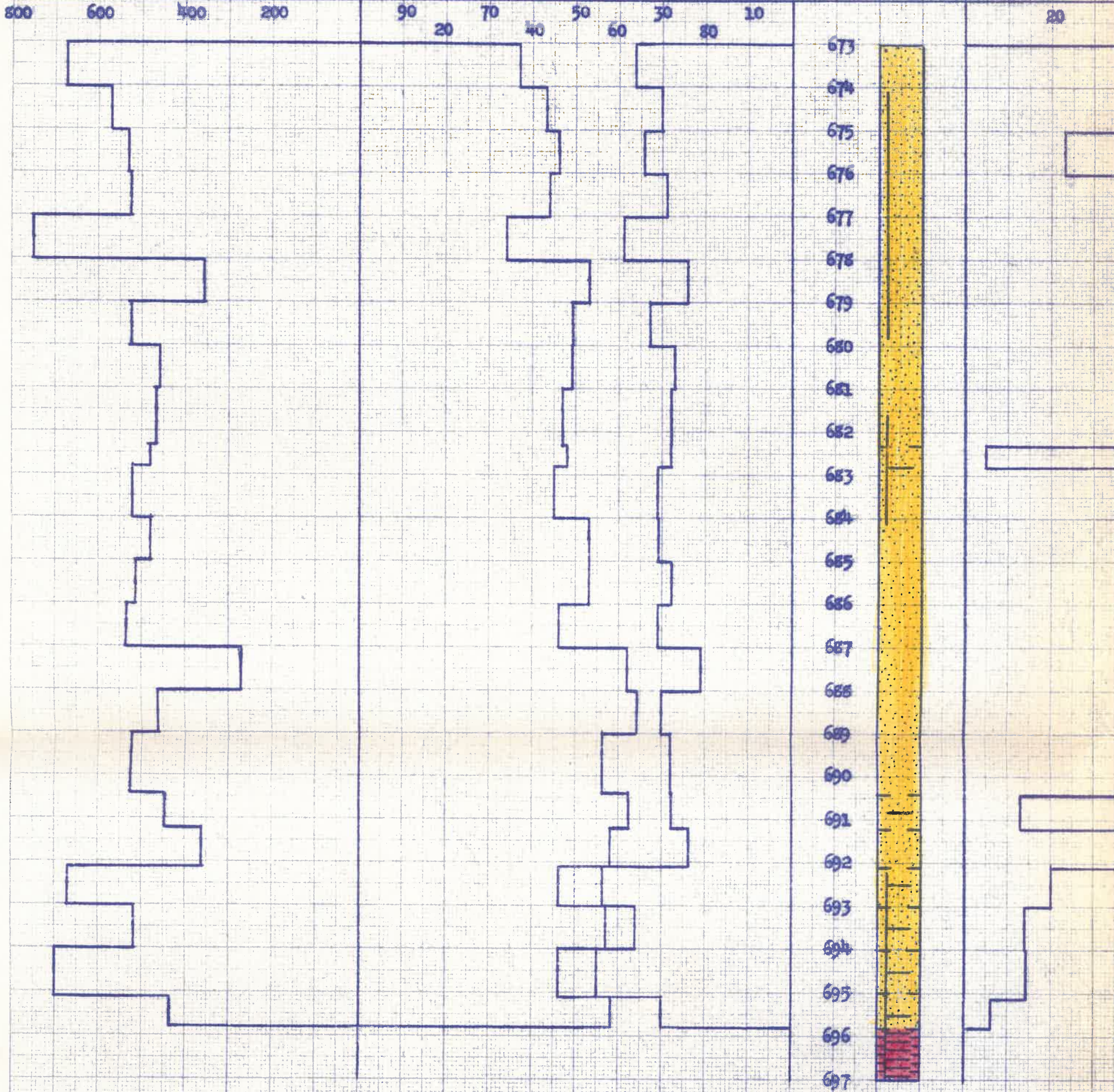
TABLE III

Company	Lease	South Unit	Well No.			
Glenn Caldwell		South Unit	36			
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.			
673.0 - 690.4	17.4	163.7	2847.80			
690.4 - 695.8	5.4	21.2	114.27			
673.0 - 695.8	22.8	129.9	2962.07			
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
673.0 - 690.4	17.4	21.9	29.8	48.9	510	8,885
690.4 - 695.8	5.4	19.6	35.2	54.0	535	2,882
673.0 - 695.8	22.8	21.4	31.2	50.1	516	11,767

OIL CONTENT,
BBL/S./A. FT.

WATER SAT.,
PERCENT

OIL SAT.,
PERCENT



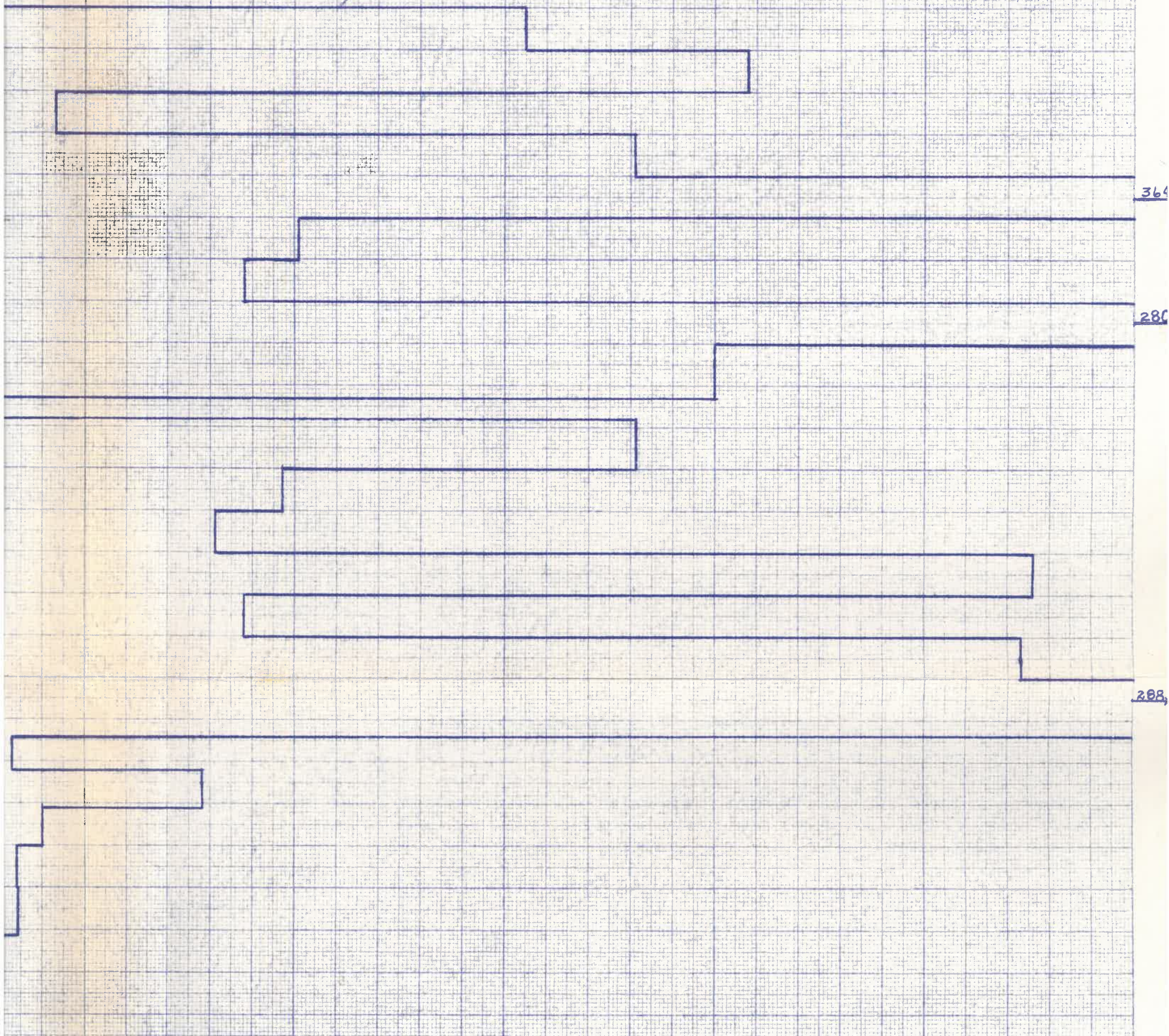
KEY:
 SANDSTONE
 SHALY SANDSTONE

GLENN CAL
 SOUTH UNIT LEASE
 ANBERSON COUNTY, K

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE PERCENT POROSITY	AVG. OIL SATURATION PERCENT
673.0 - 690.4	17.4	21.9	29.8
690.4 - 695.8	5.4	19.6	35.2
673.0 - 695.8	22.8	21.4	31.2

AIR PERMEABILITY, IN MILLIDARCYs

20 40 60 80 100 120 140 160 180 200 220 240 260 280



 SANDY SHALE

 FORMATION CONTAINING A VERTICAL FRACTURE

CALDWELL

WELL NO. 36

IN COUNTY, KANSAS

W. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVG. OIL CONTENT BBLs./A. FT.	TOTAL OIL CONTENT BBLs./ACRE	AVG. AIR PERMEABILITY, MILLIDARCYs
29.8	48.9	510	8,885	163.7
35.2	54.0	535	2,882	21.2
31.2	50.1	516	11,767	129.9

OILFIELD RESEARCH LABORATORIES
CHANDLER, KANSAS
JUNE, 1979.