

EARLOUGHER ENGINEERING
CORE SUMMARY

Company M. W. Shriver Lease Van Buskirk Well No. E-1
Location 2605 feet south, 285 feet west of northeast corner
Section 54 Twp. 23-S Rge. 21-E County Anderson State Kansas
Formation Cored Bartlesville Sand Type Core No. 6 Baker Barrel
Date Cored 8-2-46 Date Shot _____ Date Completed _____

Depths:

Started coring, shale	739.3 ft.
Top of oil pay	753.3 "
Bottom of oil pay	758.0 "
Net feet of oil pay	4.7 "
Top of micaceous sand	763.0 "
Bottom of micaceous sand	766.2 "
Feet of micaceous sand	3.2 "
Black sand (766.2 - 767.4 feet)	1.2 "
Coal	767.4 - 767.5 "
Bottom of core, shale	775.0 "
Total cored	35.7 "
Feet analyzed	9.9 "

Shot Record:

			Set Packer <u>749.0</u> Feet		
			Bottom of hole - <u>767.0 ft.</u>		
Depth, Feet			Shell	Quarts	Total
From	To	Feet	Diameter	Per Foot	Quarts
753	762	9	3 1/2"	2.0	18.0
762	765	3	5 "	3.9	11.7
					<u>29.7</u>

Completion Data:

Hrs. well stood after coring 44; Feet Fluid in Hole 65 (Oil 33 Water 32)
Clean-out time, hrs. 32; Initial production, bbls. day 7 (Oil 7 Water No)

Remarks: This core shows 4.7 feet of good oil sand between 753.3 and 758.0 feet. In addition, there are 3.2 feet of micaceous sand between 763.0 and 766.2 feet which is probably non-productive.

PERMEABILITY Average permeability of the 4.7 feet of oil pay is 93 millidarcys and values range from 71 to 149 millidarcys. Permeability capacity is 439 foot millidarcys. The 3.2 feet of micaceous sand had average permeability of 18 millidarcys.

(Continued following page.)

POROSITY Average porosity of the oil pay is 22.1 percent, and of the micaceous sand, 16.5 percent.

PERCENT SATURATION The oil pay has an average oil saturation of 36.5 percent and values range from 32 to 45 percent. Average water saturation is 34 percent which probably represents the connate water saturation of the oil sand. These values indicate that oil has probably been lost from the core by gas expansion.

The 3.2 feet of micaceous sand has an average oil saturation of 27.1 percent and average water saturation of 51 percent. The relatively high water saturation is probably due to the micaceous nature of the sand rather than to a high interstitial water saturation of the sand itself.

OIL CONTENT Average oil content of the oil pay is 625 barrels per acre foot, and of the micaceous sand, 347 barrels per acre foot.

LABORATORY FLOODING TESTS The oil pay yielded an average oil recovery of 85 barrels per acre foot in flood pot tests. Residual oil saturation after flooding averaged 34 percent with values ranging from 30 to 40 percent. These residuals are in the upper range of values normally found in the oil pay section on this sand stringer.

CONCLUSIONS

1. Net feet of oil pay is 4.7 feet.
2. The 3.2 feet of micaceous sand below the oil pay is probably non-productive of either oil or water.
3. Estimated oil recovery by water flooding is approximately 1,200 barrels per acre from the area of which this core is representative.

GEOLOGIC STANDARDS COMPANY

RESULTS OF SATURATION TESTS

COMPANY M. W. Shriver

WELL Van Buskirk No. E-1

Sat. No.	Depth Feet	Porosity Per Cent	PER CENT SAT.			Avg. Oil Content Bbls./A. Ft.	FT. OF SAND		Total Oil Content Bbls./Acre
			Oil	Water	Total		Ft.	Cum.	
2	753.4	21.7	32.	33.	65.	530.	0.5	0.5	270.
3	754.4	22.3	37.	36.	73.	650.	0.8	1.3	520.
F-4	755.3	22.4	36.	--	--	620.	1.2	2.5	750.
4	756.2	22.7	34.	33.	67.	590.	0.6	3.1	350.
F-5	756.8	22.6	45.	--	--	790.	0.6	3.7	470.
5	757.8	21.2	35.	33.	68.	580.	1.0	4.7	580.
7	764.4	17.8	19.	50.	69.	270.	1.6	6.3	430.
8	765.3	13.1	37.	63.	100.	370.	1.1	7.4	410.
9	765.9	20.1	34.	40.	74.	530.	0.5	7.9	270.

SUMMARY

DEPTH FEET		FEET OF SAND	AVG. POROSITY	AVG. OIL SAT.	AVG. WATER SAT.	AVG. OIL CONTENT BBLs./A. FT.	TOTAL OIL CONTENT BBLs./ACRE
FROM	TO						
753.3	758.0	4.7	22.1	36.5	34.	625.	2940.
763.0	766.2	3.2	16.5	27.1	51.	347.	1110.

GEOLOGIC STANDARDS COMPANY

RESULTS OF PERMEABILITY TESTS

COMPANY M. W. Shriver

WELL Van Buskirk No. E-1

Sample No.	Depth Feet	Permeability Millidarcys	FEET OF SAND		Capacity Ft. X Md.	Sample No.	Depth Feet	Permeability Millidarcys	FEET OF SAND		Capacity Ft. X Md.
			Ft.	Cum. Ft.					Ft.	Cum. Ft.	
1	743.1	Imp.	0.2*			12	763.5	44.	0.7	5.4	31.
2	750.1	18.	0.3*			13	764.1	5.0	0.9	6.3	4.5
3	753.7	69.	0.5	0.5	34.	14	764.8	6.0	0.4	6.7	2.4
4	754.2	149.	0.8	1.3	119.	15	765.3	0.1	0.4	7.1	0.1
5	754.7	80.	0.4	1.7	32.	16	765.5	Imp.	0.3	7.4	Imp.
6	755.1	86.	0.4	2.1	34.	17	765.8	37.	0.5	7.9	18.
7	755.5	86.	0.4	2.5	34.	18	766.3	0.4	0.2*		
8	756.0	71.	0.6	3.1	43.	19	766.7	2.8	0.5*		
9	756.5	108.	0.6	3.7	65.	20	767.2	2.1	0.5*		
10	757.1	78.	1.0	4.7	78.	21	768.5	0.2	0.3*		
11	757.7	Cracked									

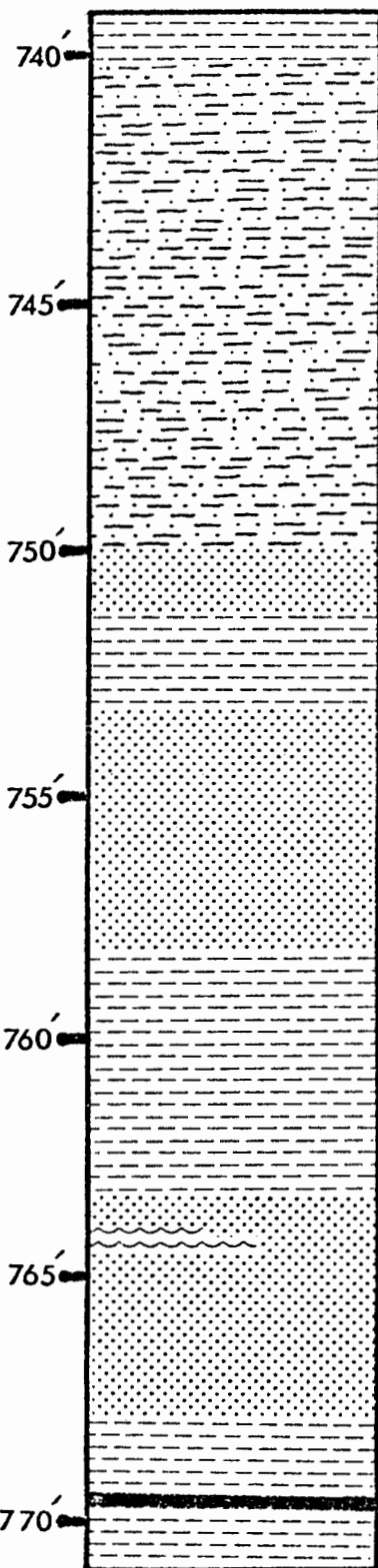
*- Not included in cumulative feet of sand.

SUMMARY

DEPTH FEET		FEET OF SAND	AVERAGE PERMEABILITY	CAPACITY FT. X MD.
FROM	TO			
753.3	758.0	4.7	93.	439.0
763.0	766.2	3.2	18.	56.0

Richard Eng. E-1-Van Buskirk
SE SW NW 4-23-21 E
elev. 1065' (est.)

Depths:



Mas. gy. sh.

Thinly-lam. sltst. & sh.

Fn.-gr. dk. brn. ss.

Mas. dk.-gy. sh.

Mas. fn.-gr. brn. oily ss.

Mas. gy. sh.

Fn.-gr. brn. oily ss. w/rip. x-bed.

Soft lt.-gy. sh.

Thin carb. layer

V. carb. gy. sh. w/coal frag's.

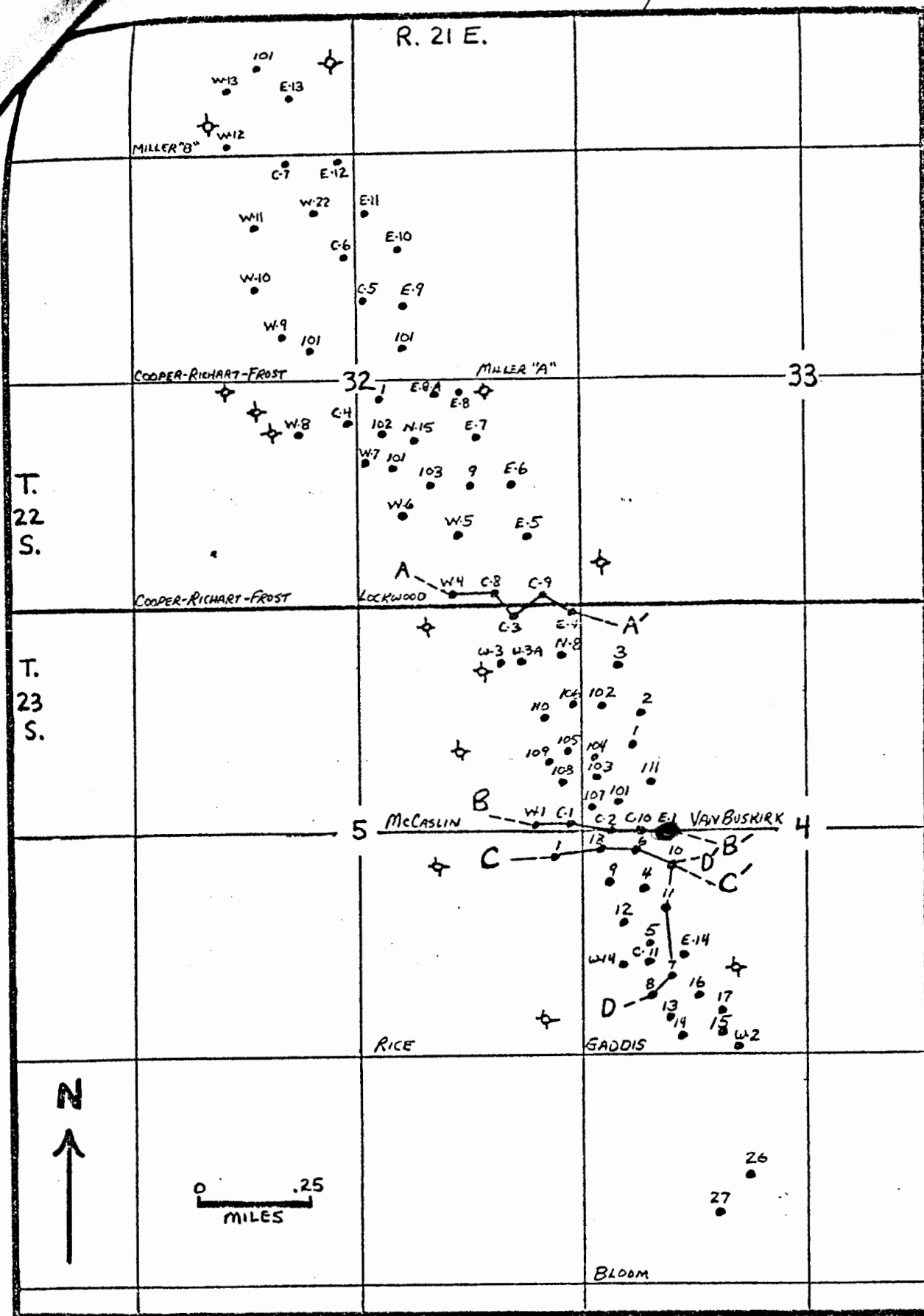
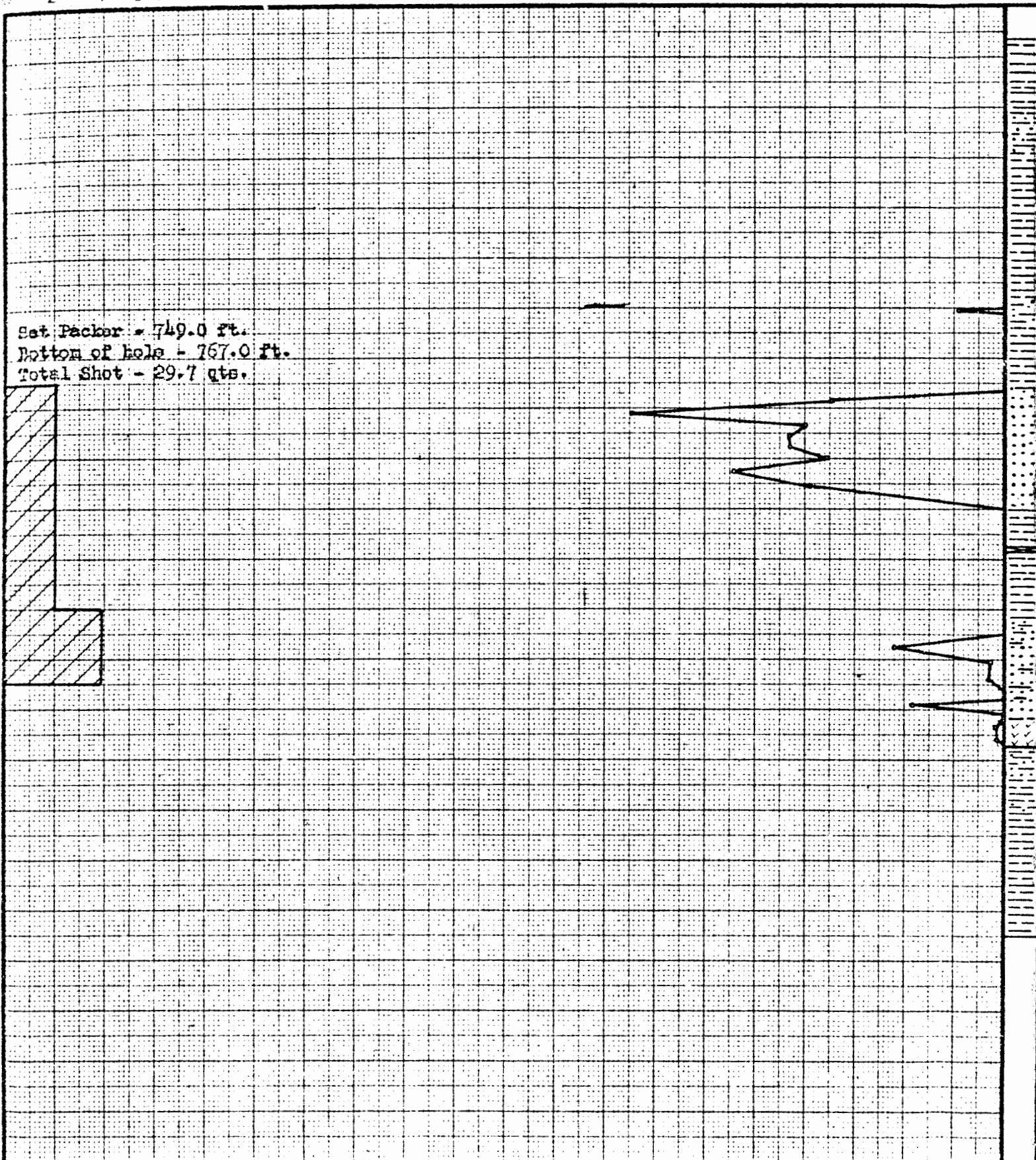


Figure 6. - Map of the Kincaid Oil Field showing leases, locations of wells, and lines of cross sections.

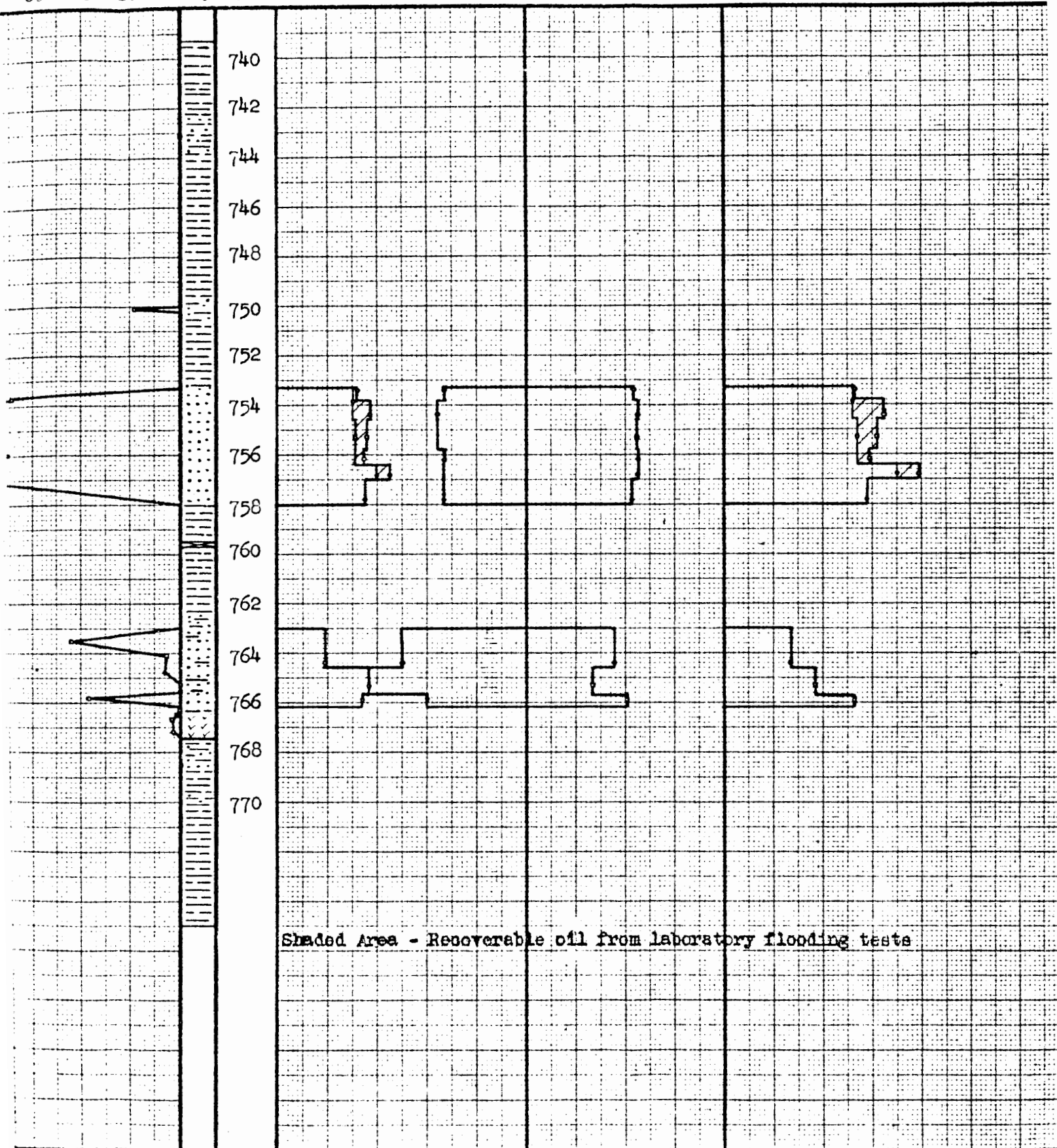
Permeability, Millidarcys

0 2 4 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0



Sec	Sand	Depth, Feet		Net Ft of Sand	Avg. Por	Average Core Sat.		Core Oil Content		Permeability	
		From	To			Oil	Water	Avg. B / A.Ft.	Total Bbl. / Ac.	Avg Mds.	Capacity Ft. x Md.
1	Bartlesville	753.3	758.0	4.7	22.1	36.5	34.	625.	2940.	93.	439.0
2	Bartlesville	763.0	766.2	3.2	16.5	27.1	51.	347.	1110.	18.	56.0

60 40 20 0 Fm. Log Depth Feet 80 60 40 20 0 Percent Water Sat. 80 60 40 20 0 Percent Oil Sat. 10 20 30 0 Percent Porosity 200 400 600 800 1000 1200 Oil Content, Bbls./A. Ft.



Permeability

Flood Print Residuals

	Avg Mts	Capacity Ft. x Md.	Saturation		Oil Content	
			Oil	Water	B / A Ft.	Bbl./Ac
940.	93.	439.0	34.	56.	582.	(Arithmetic averages)
110.	18.	56.0				

COMPANY M. W. SHRIVER

LEASE VAN BUSKIRK

WELL NO E-1

LOCATION 2605' S, 285' W of NE Corner

SEC 5 T23-S R 21-E COUNTY ANDERSON

STATE KANSAS

DATE 8-21-46

EARLOUGHER ENGINEERING

TULSA OKLAHOMA