EARLOUGHER ENGINEERING
PETROLEUM CONSULTANTS - CORE ANALYSES
3316 EAST 21ST STREET
TULSA, OKLAHOMA

May 9, 1952

Belleair Oil Corporation
281 Greenwich Avenue
Greenwich, Connecticut

Attention - Mr. George W. Cain

Re - Core Analysis
Barker Well No. 0-31
Sec. 4, T.27-S., R.18-E.
Neosho County, Kansas

Gentlemen:

Attached are results of analysis, together with profile and summary, covering core received from your above well.

Yours very truly

EARLOUGHER ENGINEERING

R. C. Earlougher, Engineer

JMR tw
Encl - 1
cc - Lloyd Burton (2)

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750
1-68
+1

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CORE SUMMARY

Company Belleair Oil Corporation Lease Barker Well No. 0-31

Location Approximately 175 feet West, 1560 feet South of Center

Section 4 Twp. 27-S Rge. 18-E County Neosho State Kansas

Formation Cored Bartlesville Sand Type Core Rotary, 3-inch

Date Cored 3-30-52 Date Shot 3-31-52 Coring Fluid Water

Depths:

Elevation		918.0 Feet
Started coring, shale		722.0 "
Top of oil sand		728.9 "
Bottom of oil sand		748.1 "
Net feet of oil sand		19.0 "
Black sand	748.1 -	749.5 "
Coal	749.5 -	750.0 "
Bottom of core, shale		767.4 "
Total cored		45.4 "
Feet analyzed		20.4 "

Shot Record: Set Packer _____ Feet

Depth, Feet From	Depth, Feet To	Feet	Shell Diameter	Quarts Per Foot	Quarts Total
735	747	12	4"	2.5	30

Set packer with bottom of cement at 730.0 feet.
Plug back to 747.0 feet.

Completion Data:

* Before shot and after setting 8 hours made 2 bailers of water and a scum of oil.

**After shot and after setting 8 hours made 2 bailers of water and 1 gallon of oil.

Hrs. well stood after coring _____; Feet Fluid in Hole * (Oil _____ Water _____)

Clean-out time, hrs. _____; Initial production, bbls. day ** (Oil _____ Water _____)

Remarks: This core shows 19.0 net feet of uniformly good oil sand in a clean section between depths 728.9 and 748.1 feet. The core water saturation is somewhat high possibly due to encroachment from a nearby old abandoned oil well.

PERMEABILITY Average permeability is 122 millidarcys and individual values range for the most part from 30 to 250 millidarcys.

(Continued following page)

POROSITY Average porosity is 21.5 per cent and values are uniformly good.

PER CENT SATURATION The average oil saturation is 35 per cent and average core water saturation 53 per cent. Values are fairly uniform through the section.

OIL CONTENT Average oil content is 578 barrels per acre-foot and values range from 440 to 720 barrels per acre-foot.

LABORATORY FLOODING TESTS Laboratory water flooding tests indicated an average residual oil saturation of 17 per cent. The total indicated flood pot oil recovery was 5560 barrels per acre and permeability to water was high.

CONCLUSIONS

1. Net feet of oil sand is 19.0 located between depths 728.9 and 748.1 feet.

2. The average oil saturation is 35 per cent, average water saturation 53 per cent and average permeability 122 millidarcys.

3. Estimated oil recovery by water flooding is 4,700 barrels per acre from the area of which this core is representative.

Respectfully submitted

EARLOUGHER ENGINEERING

J. M. Robinson, Engineer

JMR tw

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SUMMARY OF CORE ANALYSES DATA

COMPANY Belleair Oil Corporation LEASE Barker WELL NO. O-31

Sec.	Formation	Depth, Ft.		Net Ft. of Sand	Avg. Por.	Avg. Core Saturation		Core Oil Content		Permeability		Flood Pot Residuals				Oil Recovery Bbl./Acre	
		From	To			Oil	Water	Avg. B/A. Ft.	Total B/Ac.	Avg. Md.	Capacity Ft. x Md.	Saturation		Oil Content		Diff.	Flood Pot
												Oil	Water	B/A. Ft.	B/Ac.		
	BARTLESVILLE																
1	Oil Sand	728.9	739.2	10.1	21.3	37.	52.	604.	6,110.	74.	746.	19.	75.	314.	3,170.	2,940.	3,500.
2	Oil Sand	739.2	748.1	8.9	21.8	32.	55.	548.	4,880.	177.	1,573.	15.	81.	254.	2,260.	2,620.	2,770.
3	Oil Sand	748.1	749.5	1.4	13.1	70.	38.	714.	1,000.	1.8	2.5	80.	20.	812.	1,140.	-0-	-0-
1&2	Oil Sand	728.9	748.1	19.0	21.5	35.	53.	578.	10,990.	122.	2,319.	17.	78.	286.	5,430.	5,560.	6,270.

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RESULTS OF SATURATION TESTS

COMPANY Belleair Oil Corporation **WELL** Barker 0-31

Sat. No.	Depth Feet	Porosity Per Cent	Per Cent Saturation			Avg. Oil Content Bbl./A. Ft.	Feet of Sand		Total Oil Content Bbl./Acre
			Oil	Water	Total		Ft.	Cum.	
1	729.2	21.9	40.	47.	87.	690.	0.9	0.9	620.
F-2	730.7	20.4	45.	--	--	720.	1.1	2.0	790.
3	731.9	22.1	39.	49.	86.	670.	1.0	3.0	670.
F-4	733.0	22.3	34.	--	--	590.	1.6	4.6	950.
5	734.0	20.6	32.	58.	90.	510.	1.2	5.8	610.
F-6	735.2	20.2	40.	--	--	630.	1.4	7.2	880.
7	736.6	21.5	29.	54.	83.	500.	1.0	8.2	500.
F-8	737.6	19.3	40.	--	--	600.	0.7	8.9	420.
9	738.7	23.3	31.	50.	81.	560.	1.2	10.1	670.
F-10	739.7	22.8	36.	--	--	640.	1.2	11.3	770.
11	740.7	23.1	29.	55.	84.	520.	0.9	12.2	470.
F-12	741.5	22.0	39.	--	--	670.	0.7	12.9	470.
13	742.6	23.3	34.	58.	92.	620.	1.1	14.0	680.
F-14	743.7	19.1	36.	--	--	530.	1.2	15.2	640.
15	744.7	24.3	29.	50.	79.	540.	1.0	16.2	540.
F-16	745.5	21.5	29.	--	--	480.	0.6	16.8	290.
17	746.4	22.0	29.	55.	84.	490.	1.1	17.9	540.
F-18	747.5	18.4	31.	--	--	440.	1.1	19.0	480.
19	748.4	16.3	62.	38.	100.	780.	0.6	19.6	470.
F-20	749.3	10.6	80.	--	--	660.	0.8	20.4	530.

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RESULTS OF LABORATORY FLOODING TESTS

COMPANY Belleair Oil Corporation LEASE Barker WELL NO. O-31

Sample No.	Depth	Porosity	Perm. Approx.	Before Flooding 1/			Max. Press. Psi.	Water Through C.C.	Time Min.	Flood Pot Residual			Flood Pot Oil Recovery Bbl./A. Ft.	
				Oil Sat.	Water Sat.	Oil Content Bbl./A. Ft.				Oil Sat.	Water Sat.	Oil Content Bbl./A. Ft.		
F-2	730.7	20.4	45.	45.	--	720.	40.	7,331.	615.	23.	69.	360.	361.	
F-4	733.0	22.3	150.	34.	--	590.	20-40.	13,806.	495.	16.	72.	270.	320.	
F-6	735.2	20.2	85.	40.	--	630.	40.	12,055.	555.	15.	81.	230.	403.	
F-8	737.6	19.3	75.	40.	--	600.	40.	2,507.	555.	15.	76.	300.	301.	
F-10	739.7	22.8	300.	36.	--	640.	20-40.	16,011.	435.	16.	81.	280.	359.	
F-12	741.5	22.0	140.	39.	--	670.	20-40.	15,790.	555.	14.	82.	240.	429.	
F-14	743.7	19.1	70.	36.	--	530.	20-40.	18,240.	555.	15.	80.	230.	296.	
F-16	745.5	21.5	92.	29.	--	480.	20-40.	11,039.	495.	15.	73.	250.	233.	
F-18	747.5	18.4	110.	31.	--	440.	20-40.	13,106.	495.	14.	88.	200.	240.	
F-20	749.3	10.6	2.0	80.	--	660.	40.	-0-	555.	80.	20.	660.	-0-	

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1/ Unless otherwise noted, oil content and saturation before flooding equals flood pot oil recovery plus flood pot residual.

Earlougher Engineering

RESULTS OF PERMEABILITY TESTS

COMPANY Belleair Oil Corporation **WELL** Barker 0-31

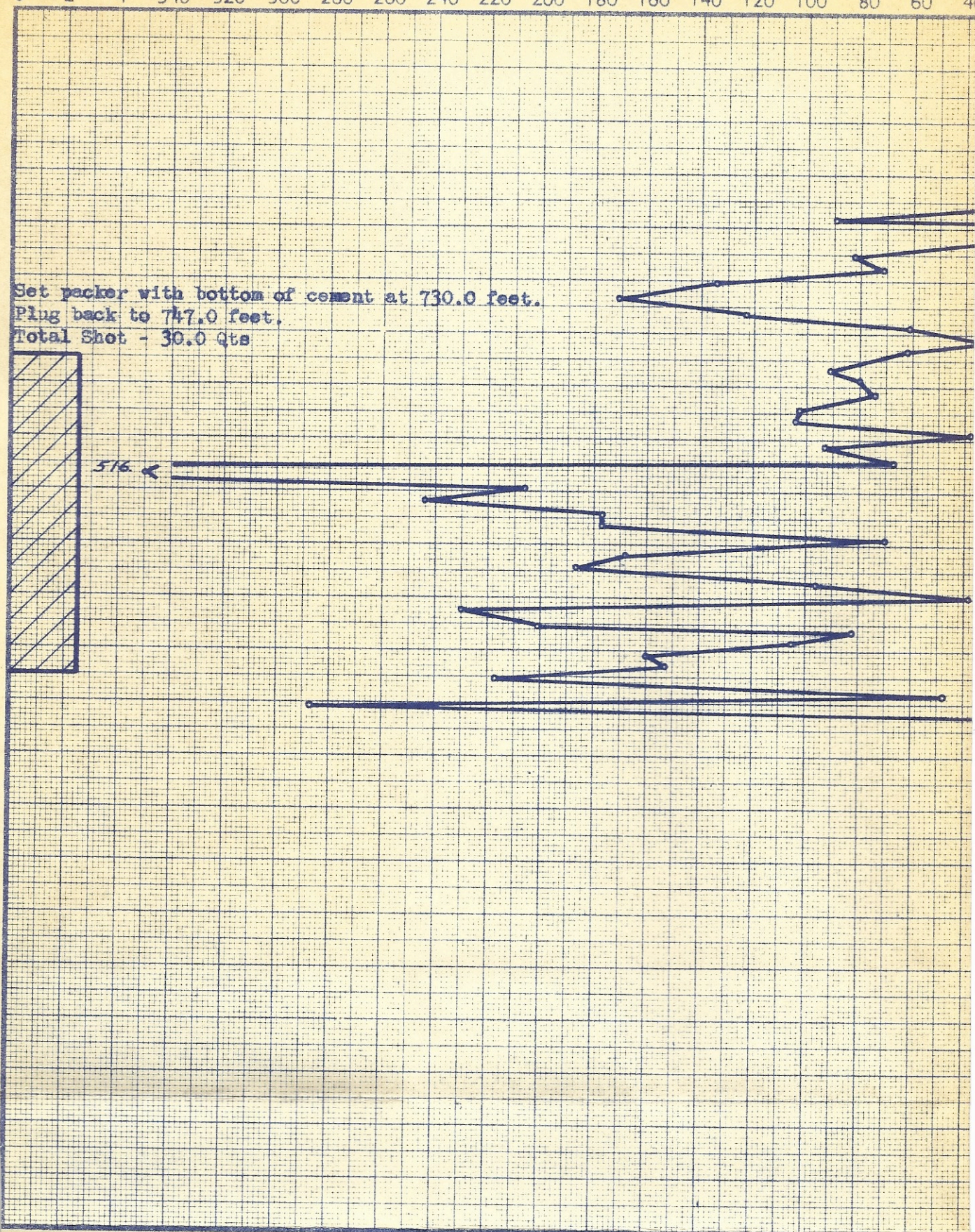
Sample No.	Depth Feet	Permeability Millidarcys	Feet of Sand		Capacity Ft. X Md.	Sample No.	Depth Feet	Permeability Millidarcys	Feet of Sand		Capacity Ft. X Md.
			Ft.	Cum. Ft.					Ft.	Cum. Ft.	
1	729.0	4.7	0.7	0.7	3.3	22	740.4	244.	0.3	11.3	73.
2	729.7	89.	0.2	0.9	18.	23	740.9	177.	0.9	12.2	160.
3	730.4	20.	1.1	2.0	22.	24	741.3	177.	0.5	12.7	89.
4	731.1	82.	0.3	2.3	25.	25	741.8	70.	0.2	12.9	14.
5	731.6	71.	0.7	3.0	50.	26	742.4	168.	0.4	13.3	67.
6	732.1	134.	0.4	3.4	54.	27	742.9	187.	0.7	14.0	131.
7	732.7	171.	0.5	3.9	86.	28	743.5	96.	0.7	14.7	67.
8	733.3	123.	0.7	4.6	86.	29	744.0	38.	0.5	15.2	19.
9	733.8	61.	0.4	5.0	24.	30	744.5	230.	0.6	15.8	138.
10	734.3	31.	0.4	5.4	12.	31	745.1	201.	0.4	16.2	81.
11	734.9	62.	0.4	5.8	25.	32	745.3	82.	0.3	16.5	25.
12	735.4	91.	0.7	6.5	64.	33	745.7	105.	0.3	16.8	32.
13	735.8	80.	0.4	6.9	32.	34	746.2	160.	0.5	17.3	80.
14	736.3	74.	0.3	7.2	22.	35	746.6	153.	0.6	17.9	92.
15	736.9	103.	0.7	7.9	72.	36	747.1	217.	0.6	18.5	130.
16	737.3	104.	0.3	8.2	31.	37	747.7	48.	0.2	18.7	9.6
17	737.8	38.	0.7	8.9	27.	38	748.1	287.	0.3	19.0	86.
18	738.3	93.	0.5	9.4	46.	39	748.6	0.2	0.6	19.6	0.1
19	738.9	67.	0.7	10.1	47.	40	749.1	4.5	0.5	20.1	2.3
20	739.4	516.	0.3	10.4	155.	41	749.4	0.1	0.3	20.4	0.1
21	739.9	206.	0.6	11.0	124.						


BARKER O-31
1) 724.0 29.3
2) 730.5 30.8
3) 731.7 32.0
4) 732.7 33.2
5) 733.9 34.2
6) 735.0 35.3
7) 732.4 36.7
8) 737.4 37.7
9) 738.5 38.8
10) 737.5 38.8
11) 740.5 40.8
12) 741.7 41.7
13) 742.5 42.5
14) 743.6 43.9
15) 744.5 44.8
16) 745.3 END OF 1st CORE
17) 745.3 45.4
18) 746.3 46.2
19) 747.5 47.6
20) 748.1 48.4
21) 748.2 48.5

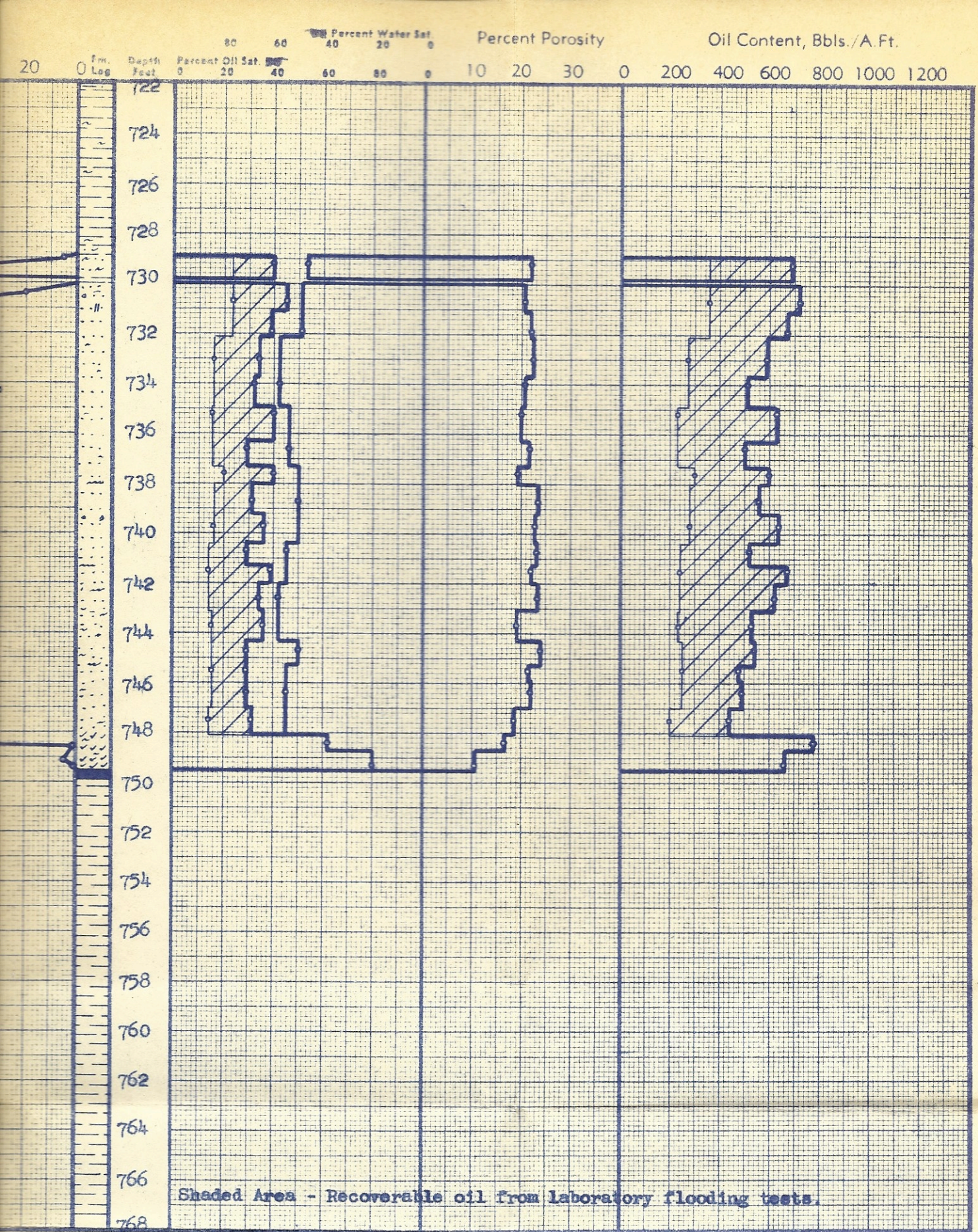
Recommended Shot, Qts./Ft.

Permeability, Millidarcys

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



Sec.	Sand	Depth, Feet From	Depth, Feet To	Net Ft. of Sand	Avg. Por.	Average Core Sat. Oil	Average Core Sat. Water	Core Oil Content Avg. B./A.Ft.	Core Oil Content Total Bbl./Ac.	A M
	BARTLESVILLE									
1	Oil Sand	728.9	739.2	10.1	21.3	37.	52.	604.	6,110.	7
2	Oil Sand	739.2	748.1	8.9	21.8	32.	55.	548.	4,880.	17
3	Black Sand	748.1	749.5	1.4	13.1	70.	38.	714.	1,000.	
1&2	Oil Sand	728.9	748.1	19.0	21.5	35.	53.	578.	10,990.	12



rmeability	Flood Pot Residuals			
Capacity Ft. x Md.	Saturation		Oil Content	
	Oil	Water	B./A.Ft.	Bbl./Ac.
746.	19.	75.	314.	3,170.
1,573.	15.	81.	254.	2,260.
2.5	80.	20.	812.	1,140.
2,319.	17.	78.	286.	5,430.

COMPANY HELIEAIR OIL CORPORATION
LEASE BARKER WELL NO. 0-31
LOCATION Approx. 175'W., 1560'S. of Center
SEC 4 T 27-S R 18-E COUNTY Neosho
STATE Kansas DATE 5-7-52
EARLOUGHER ENGINEERING TULSA, OKLAHOMA