

EARLOUGHER ENGINEERING

PETROLEUM CONSULTANTS - CORE ANALYSES

3316 EAST 21ST STREET

TULSA, OKLAHOMA

March 2, 1953

Belleair Oil Corporation
281 Greenwich Avenue
Greenwich, Connecticut

Attention - Mr. George W. Cain

Re - Core Analysis
Barker Well No. 0-38
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 s
Encl - 1
cc - Lloyd Burton (2)

EARLOUGHER ENGINEERING

CORE SUMMARY

Company Belleair Oil Corporation Lease Barker Well No. 0-38

Location 45 feet North of the South line, 660 feet West of the center line

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

Formation Cored Bartlesville Type Core Rotary, 3-inch

Date Cored 2-20-53 Date Shot 2-21-53 Coring Fluid Water

Depths:

Elevation, ground	914.0 Feet
Started coring, shale	721.0 "
Top of oil sand	725.1 "
Bottom of oil sand	744.1 "
Net feet of oil sand	14.2 "
Bottom of hole drilled, shale	747.0 "
Total feet cored	23.1 "
Feet analyzed	15.3 "

Shot Record:

Set Packer _____ Feet

Depth, Feet		Feet	Shell Diameter	Quarts Per Foot	Quarts Total
From	To				

Set packer with bottom of cement at 725 feet.
 Plug back with rock and lead wool to 744 feet.
 Sand not shot.

Completion Data:

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

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

Remarks: The Bartlesville section was rotary cored from 721.0 to 744.1 feet. Core was sampled by Belleair Oil Corporation. Coring was commenced in shale and stopped at the bottom of the oil sand. Three feet of shale was drilled from 744.1 to 747.0 feet.

Results of analyses indicate 14.2 net feet of fair oil sand in a somewhat broken section from 725.1 to 744.1 feet. The average oil saturation is 36 per cent and individual values vary from 22 to 54 per cent throughout the section. The average core water saturation is 42 per cent and individual values vary from 27 to 52 per cent.

(Continued following page)

The erratic oil saturation probably is indicative of water encroachment in this area but may be due in part to the broken shaly character of the sand.

Average permeability of the oil sand is 50 millidarcys and it was recommended that the section not be shot. Average porosity is 20.3 per cent and values are good throughout the section. Laboratory water flooding tests indicated a relatively low residual oil saturation of 16 per cent and an average oil recovery of 320 barrels per acre-foot.

Estimated oil recovery by water flooding is 2400 barrels per acre from the area of which this core is representative.

JMR s

EARLOUGHER ENGINEERING
SUMMARY OF CORE ANALYSES DATA

WELL NO. 0-38

LEASE Barker

COMPANY Belleair Oil Corporation

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.		
1	<u>BARTLESVILLE</u> Oil sand	725.1	728.2	2.7	21.9	50.	27.	841.	2,270.	48.	130.	19.	73.	323.	870.	1,400.	1,300.
2	Oil sand	728.4	744.1	11.5	20.9	33.	45.	506.	5,820.	51.	585.	15.	70.	233.	2,680.	3,140.	2,520.
1&2	Oil sand	725.1	744.1	14.2	20.3	36.	42.	570.	8,090.	50.	715.	16.	71.	250.	3,550.	4,540.	3,820.

EARLOUGHER ENGINEERING

RESULTS OF SATURATION TESTS

COMPANY Belleair Oil Corporation

WELL Barker No. 0-38

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	722.7	13.1	11.	62.	73.	270.	0.3*		
F-2	724.8	10.0	23.	--	--	180.	0.4*		
3	726.1	21.1	54.	27.	81.	890.	1.2	1.2	1070.
F-4	727.3	22.6	46.	--	--	800.	1.5	2.7	1200.
5	728.6	22.9	28.	47.	75.	490.	0.8	3.5	390.
F-6	729.8	20.7	34.	--	--	540.	0.6	4.1	320.
7	730.8	20.6	34.	38.	72.	540.	0.5	4.6	270.
F-8	731.8	16.7	24.	--	--	310.	1.0	5.6	310.
9	733.1	17.6	38.	50.	88.	520.	0.4	6.0	210.
F10	734.2	19.0	22.	--	--	320.	1.6	7.6	510.
11	735.4	20.6	33.	48.	81.	530.	1.4	9.0	740.
F12	736.6	14.1	15.	--	--	160.	0.4*		
13	737.6	15.8	28.	52.	80.	340.	0.6	9.6	200.
F14	739.1	22.8	32.	--	--	560.	0.6	10.2	340.
15	740.1	22.2	36.	41.	77.	620.	0.9	11.1	560.
F16	741.2	18.8	25.	--	--	360.	0.7	11.8	250.
17	742.7	20.4	49.	40.	89.	780.	1.7	12.5	1330.
F18	744.0	21.0	34.	--	--	550.	0.7	14.2	390.

* Not included in cumulative feet of sand.

EARLOUGHER ENGINEERING

RESULTS OF LABORATORY FLOODING TESTS

COMPANY Belleair Oil Corporation

LEASE Barker

WELL NO. 0-38

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	724.8	10.0	1.0	23.	--	180.	40.	-0-	375	22.	78.	170.	6.
F-4	727.3	22.6	52.	46.	--	800.	10/40.	22,670.	555	19.	73.	320.	482.
F-6	729.8	20.7	--	34.	--	540.	40.	5,180.	555	14.	65.	230.	310.
F-8	731.8	16.7	--	24.	--	310.	40.	2,650.	555	17.	70.	220.	93.
F-10	734.2	19.0	40.	22.	--	320.	40.	14,249.	555	9.2	84.	140.	180.
F-12	736.6	14.1	20.	15.	--	160.	40.	+	495	13.	62.	140.	22.
F-14	739.1	22.8	38.	32.	--	560.	40.	17,594.	555	14.	69.	240.	318.
F-16	741.2	18.8	2.0	25.	--	360.	40.	7,299.	495	15.	63.	210.	148.
F-18	744.0	21.0	34.	34.	--	550.	40.	7,643	495	18.	69.	290.	264.

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 No. 0-38

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	722.7	2.6	0.3*								
2	725.1	1.3	0.4*								
3	725.8	43.	1.2	1.2	52.						
4	727.0	75.	0.7	1.9	53.						
19	727.6	31.	0.8	2.7	25.						
5	728.8	79.	0.8	3.5	63.						
6	729.5	0.5	0.3*								
20	730.4	16.	0.6	4.1	9.6						
7	731.0	39.	0.5	4.6	20.						
8	732.1	11.	1.0	5.6	11.						
9	733.3	8.6	0.4	6.0	3.4						
10	733.9	61.	1.1	7.1	67.						
21	734.6	5.3	0.5	7.6	2.7						
11	735.6	37.	0.9	8.5	33.						
22	736.2	12.	0.2	8.7	2.4						
12	736.8	24.	0.3	9.0	7.2						
13	737.8	3.9	0.6	9.6	2.3						
14	739.3	80.	0.6	10.2	48.						
15	739.8	100.	0.9	11.1	90.						
16	740.8	11.	0.7	11.8	7.7						
23	741.8	166.	0.7	12.5	116.						
17	742.9	61.	1.0	13.5	61.						
18	743.9	58.	0.7	14.2	41.						

* Not included in cumulative feet of sand.

BARKER 0-38

D 7324
22.8

D 7316
28.8

D 7319

D 7317
27.4

D 7325
28.7

D 7296
27.7

D 7302
30.9

D 7315
31.7

D 7329
33.2

D 7340
32.3

D 7327
33.5

D 7327
36.7

D 7324
33.7

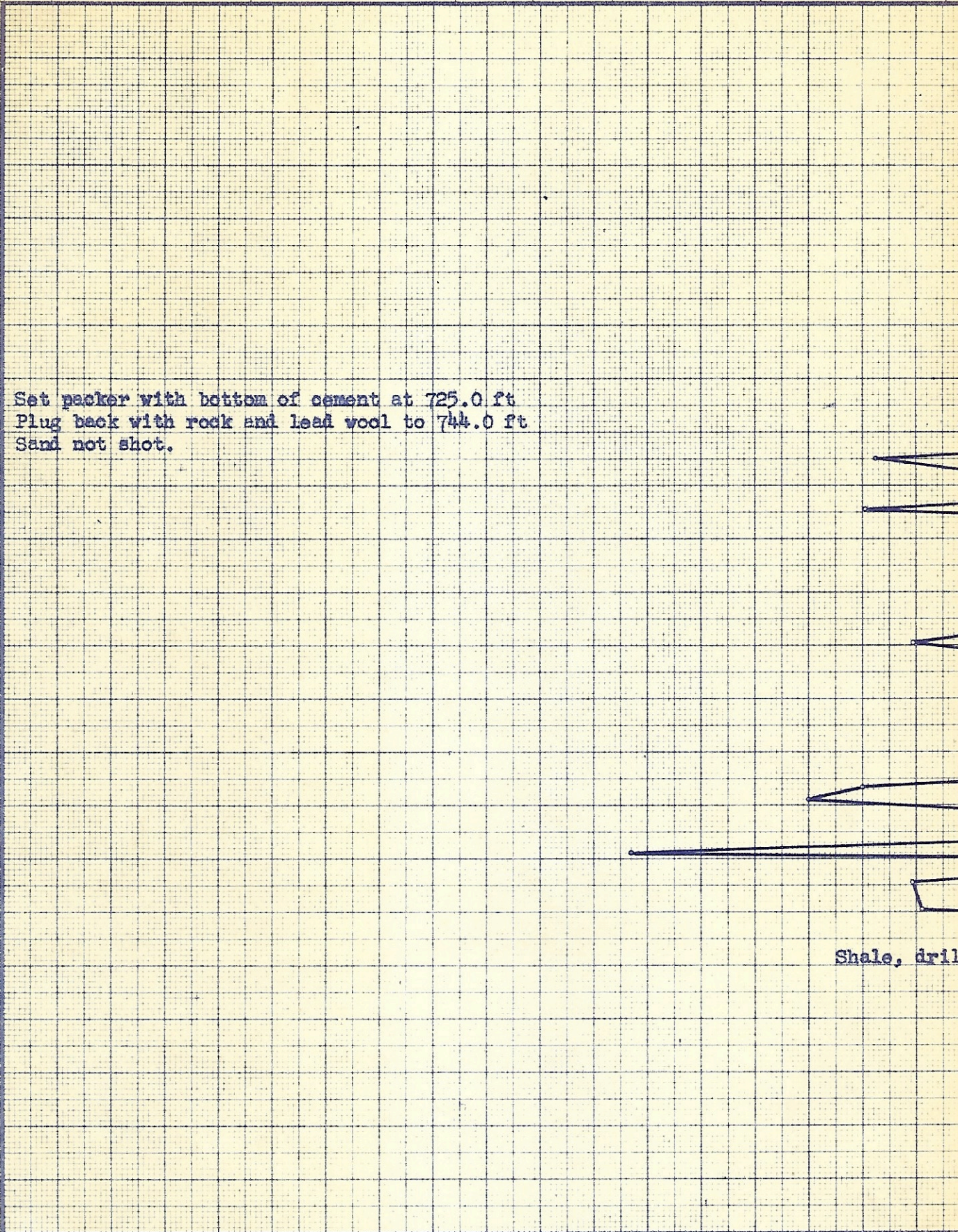
D 7327
34.2

D 7319
34.4

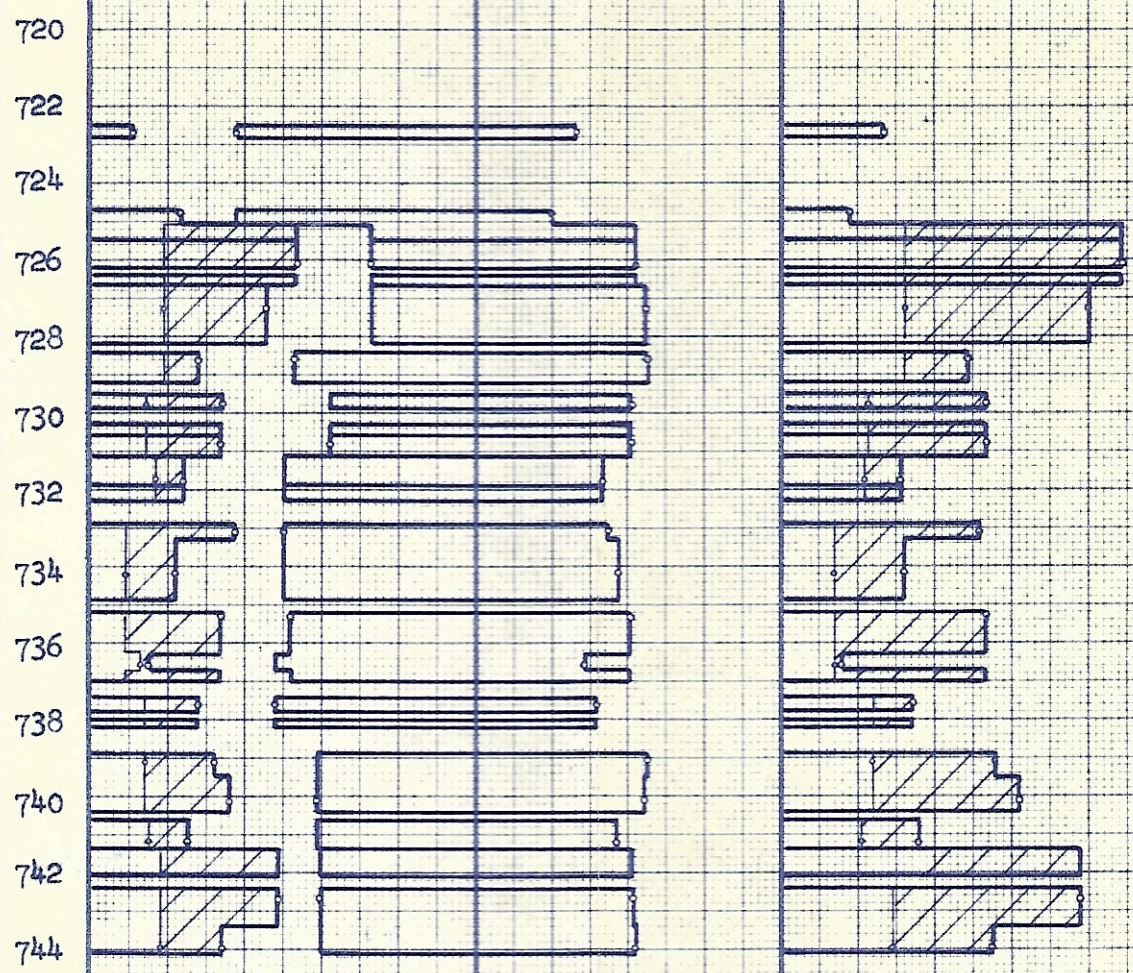
D 7410
40.3

D 7425
42.3

D 7418
44.4



Sec.	Sand	Depth, Feet		Net Ft. of Sand	Avg. Por.	Average Core Sat.		Core Oil Content	
		From	To			Oil	Water	Avg. B./A.Ft.	Total Bbl./Ac.
<u>BARTLESVILLE SAND</u>									
1	Oil Sand	725.1	728.2	2.7	21.9	50.	27.	841.	2,270.
2	Oil Sand	728.4	744.1	11.5	20.0	33.	45.	506.	5,820.
1&2	Oil Sand	725.1	744.1	14.2	20.3	36.	42.	570.	8,090.



Shaded Area - Recoverable oil from laboratory flooding tests

Capacity Ft. x Md.	Flood Pot Residuals		Oil Content	
	Saturation Oil	Saturation Water	B / A.Ft.	Bbl. / Ac.
130.	19.	73.	323.	870.
585.	15.	70.	233.	2,680.
715.	16.	71.	250.	3,550.

COMPANY BELLEAIR OIL CORPORATION
 LEASE BARKER WELL NO. 0-38
 LOCATION 45' N of SL, 660' W of Center Line
 SEC. 4 T 27S R. 18E COUNTY Neosho
 STATE Kansas DATE 3-2-53

EARLOUGHER ENGINEERING TULSA, OKLAHOMA