

EARLOUGHER ENGINEERING

PETROLEUM CONSULTANTS - CORE ANALYSES

3316 EAST 21ST STREET

TULSA, OKLAHOMA

January 28, 1953

Belleair Oil Corporation
281 Greenwich Avenue
Greenwich, Connecticut

Attention - Mr. George W. Cain

Re - Core Analysis
Barker Well No. O-32
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 1
Encl 1
cc - Lloyd Burton (2)

922
750
+172

EARLOUGHER ENGINEERING
CORE SUMMARY

Company Belleair Oil Corporation Lease Barker Well No. O-32
Location 685 feet North of South Line, 755 feet West of East Line of SW/4
Section 4 Twp. 27-S Rge. 18-E County Neosho State Kansas
Formation Cored Bartlesville Type Core Rotary, 3-inch
Date Cored 1-21-53 Date Shot 1-22-53 Coring Fluid Water

Depths:	Elevation, Rig Floor, Datum	922.0 feet
	Estimated top of oil sand drilled	728.0 "
	Started coring, core loss	730.2 "
	Top of oil sand recovered	732.3 "
	Bottom of core, oil sand	750.0 "
	Net feet of oil sand recovered	13.7 "
	Total feet cored	19.8 "
	Feet analyzed	13.7 "
	Estimated net feet of oil sand, including 4.0 feet not cored or recovered	17.7 "

Recommended
Shot Record:

Set Packer _____ Feet

Depth, Feet		Feet	Shell Diameter	Quarts Per Foot	Quarts Total
From	To				
734	745	11	4"	2.5	27.5

Set packer with bottom of cement at 729.0 feet.
Total Depth 750.0 feet.

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 730.2 to 750.0 feet and core sampled by Belleair Oil Corporation.

This core indicates 13.7 net feet of oil sand in a broken section between depths 732.3 and 750.0 feet. However, the top of the oil sand reportedly was drilled at 728.0 feet and coring was stopped in oil sand so there undoubtedly is additional oil sand over and above that herein reported.

(Continued following page)

The oil sand recovered has an average oil saturation of 41 per cent, average core water saturation of 33 per cent, average porosity of 22.1 per cent and average permeability of 87 millidarcys. Laboratory water flooding tests indicated an average residual oil saturation of 17 per cent. Total flood pot oil recovery was 5590 barrels per acre based on 13.7 net feet of sand recovered.

Estimated oil recovery by water flooding is 285 barrels per acre-foot from the area of which this core is representative. Assuming 17.7 net feet of oil sand the estimated ultimate recovery should be 5000 barrels per acre.

It was reported that before the shot the hole filled up 320 feet in 8 hours.

The fluid was approximately two-thirds oil and one-third water.

JMR 1

EARLOUGHER ENGINEERING

SUMMARY OF CORE ANALYSES DATA

COMPANY Belleair Oil Corporation

LEASE Barker

WELL NO. 0-32

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
1	<u>BARTLESVILLE</u> Oil sand	732.3	745.2	11.6	21.8	40.	33.	674.	7,810	57.	663.	17.	74.	287.	4,480	4,420
2	Oil sand	747.9	750.0	2.1	23.9	47.	32.	880.	1,850	251.	526.	19.	72.	352.	1,110	1,110
1-2	Oil sand	732.3	750.0	13.7*	22.1	41.	33.	705.	9,660	87.	1,189.	17.	74.	297.	5,590	5,530
** Additional Oil sand probably present above and below cored section.																

RESULTS OF SATURATION TESTS

WELL Barker No. 0-32

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EARLOUGHER ENGINEERING

RESULTS OF LABORATORY FLOODING TESTS

COMPANY Belleair Oil Corporation

LEASE Barker

WELL NO. 0-32

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	733.5	21.2	42.	46.	--	750.	40.	316	555	20.	70.	320.	429.	
F-4	735.7	22.0	77.	42.	--	720.	10/40.	8,836	555	17.	70.	290.	425.	
F-6	737.7	21.7	26.	30.	--	500.	40.	6,428	555	16.	72.	270.	233.	
F-8	739.9	21.3	50.	43.	--	710.	40.	8,185	555	16.	77.	260.	451.	
F-10	741.9	22.5	59.	37.	--	640.	10/40.	13,716	555	15.	77.	250.	394.	
F-12	743.9	22.3	101.	36.	--	620.	10/40.	10,260	555	15.	76.	270.	353.	
F-14	748.2	23.9	170.	44.	--	820.	10/40.	13,761	555	19.	70.	350.	473.	
F-16	749.8	23.8	450.	51.	--	940.	10/40.	17,100	555	19.	73.	350.	586.	

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

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RESULTS OF PERMEABILITY TESTS

COMPANY

Belleair Oil Corporation

WELL Barker No. 0-32

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	732.8	-0-	0.2*			16	740.6	56.	0.3	7.2	17.
32	733.0	12.	0.6	0.6	7.2	17	741.1	81.	0.3	7.5	24.
2	733.3	1.9	0.3	0.9	0.6	18	741.6	29.	0.6	8.1	17.
3	733.7	70.	0.4	1.3	28.	19	742.1	76.	0.8	8.9	61.
4	734.3	0.6	0.3*			20	752.6	28.	0.5	9.4	14.
33	734.0	40.	0.6	1.9	24.	21	743.1	82.	0.4	9.8	33.
5	735.0	IMP	0.2*			22	743.6	53.	0.7	10.5	37.
6	735.4	62.	0.4	2.3	25.	23	744.1	133.	0.3	10.8	40.
7	735.9	86.	0.5	2.8	43.	24	744.6	126.	0.4	11.2	50.
8	736.3	39.	0.5	3.3	20.	25	745.1	33.	0.4	11.6	13.
9	736.8	112.	0.7	4.0	78.	26	748.0	121.	0.4	12.0	48.
10	737.4	8.6	0.2	4.2	1.7	27	748.4	198.	0.4	12.4	79.
11	737.9	37.	0.8	5.0	30.	28	748.8	28.	0.2	12.6	5.6
12	738.7	34.	0.3	5.3	10.	29	749.2	251.	0.5	13.1	126.
13	739.1	63.	0.5	5.8	32.	30	749.6	562.	0.3	13.4	169.
14	739.6	59.	0.6	6.4	35.	31	750.0	326.	0.3	13.7	98.
15	740.1	43.	0.5	6.9	22.						
* Not included in cumulative feet of sand.											

BARKER

0-32

732.3
32.6

733.3
32.6

734.2
34.8

735.5
32.8

736.4
34.9

737.5
37.8

738.7
35.0

739.7
37.0

741.7
42.0

742.6
42.0

743.7
44.0

744.7
45.0

746.0
48.3

748.8
49.1

749.7
49.1

750.0

Estimated top of oil sand drilled 72

Recommended Shot:

Set packer with bottom of cement at 729.0 feet.

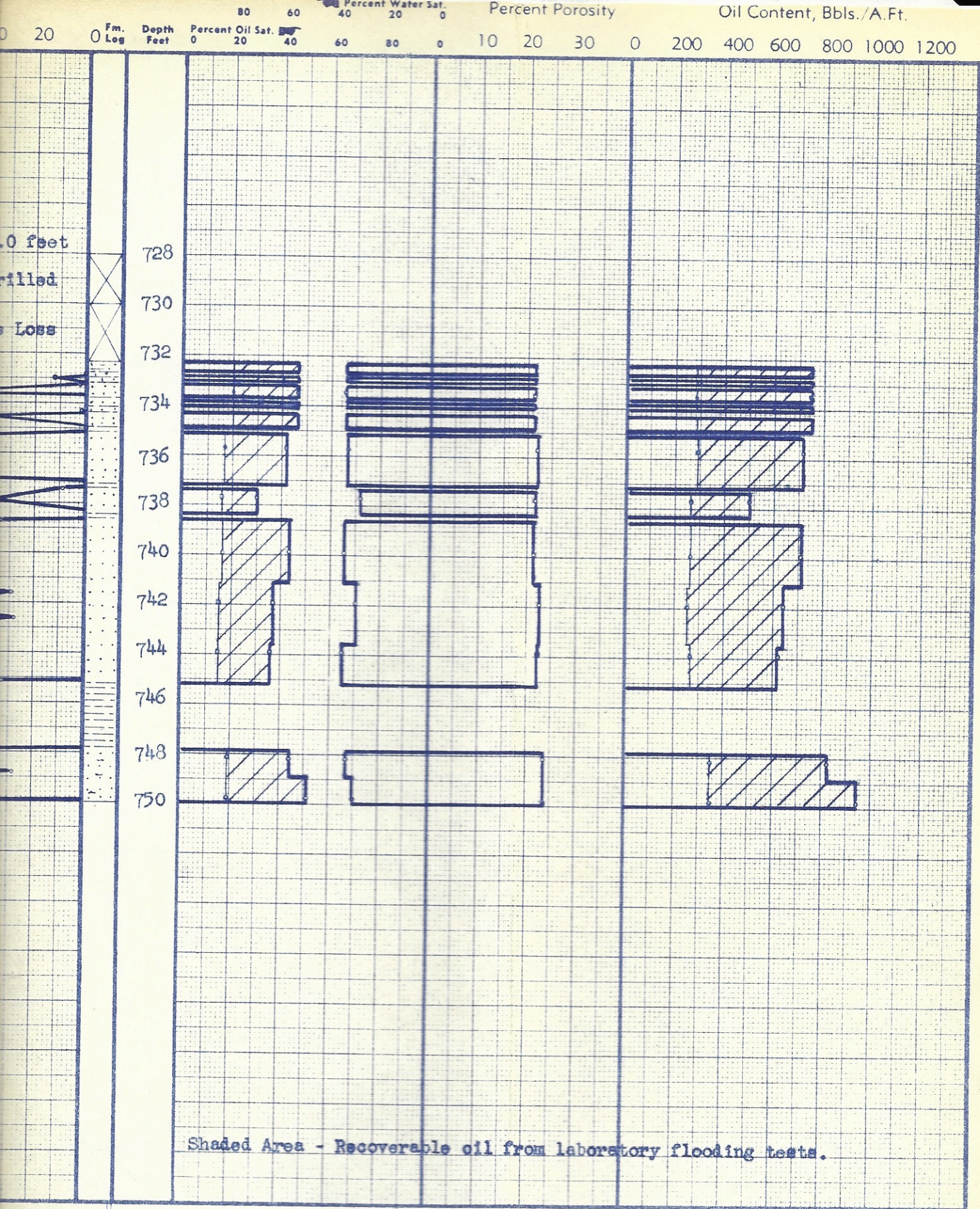
Total Depth 750.0 feet.

Total Shot 27.5 Qts.



562 <

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</u>								
1	Oil Sand	732.3	745.2	11.6	21.8	40.	33.	674.	7,810.
2	Oil Sand	749.9	750.0	2.1	23.9	47.	32.	880.	1,850.
1-2	Oil Sand	732.3	750.0	13.7**	22.1	41.	33.	705.	9,660.



Capacity Ft. x Md.	Flood Pot Residuals			
	Saturation		Oil Content	
	Oil	Water	B. / A.Ft.	Bbl. / Ac
663.	17.	74.	287.	3,330.
526.	19.	72.	352.	740.
1,189.	17.	74.	297.	4,070.

COMPANY BELLEAIR OIL CORPORATION

LEASE BARKER WELL NO. 0-32

LOCATION 685' N. of S.L., 755' W. of E.L. of SW/4

SEC. 4 T. 27S R. 18E COUNTY Neosho

STATE Kansas

DATE 1-28-53

EARLOUGHER ENGINEERING TULSA, OKLAHOMA