

OILFIELD RESEARCH LABORATORIES

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

May 8, 1981

Markan Oil, Inc.
Box 812
Chanute, Kansas 66720

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Jordan Lease, Well No. 54, located in Allen County, Kansas and submitted to our laboratory on April 29, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

5 c to Chanute, Kansas

- REGISTERED ENGINEERS -

CORE ANALYSIS - WATER ANALYSIS - REPRESSURING ENGINEERING - SURVEYING & MAPPING - PROPERTY EVALUATION & OPERATION

Oilfield Research Laboratories
GENERAL INFORMATION & SUMMARY

Company Markan Oil, Inc. Lease Jordan Well No. 54
 Location 220' FSL & 825' FWL SW $\frac{1}{4}$
 Section 20 Twp. 26S Rge. 20E County Allen State Kansas

Elevation, Feet		
Name of Sand.....	Bartlesville	Tucker
Top of Core	772.0	796.0
Bottom of Core	773.6	816.0
Top of Sand	772.0	796.0
Bottom of Sand	773.6	810.6
Total Feet of Permeable Sand	1.6	13.9
Total Feet of Floodable Sand	0.	0.

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.		
<u>BARTLESVILLE SAND</u>				
5 - 10	1.6	1.6		
<u>TUCKER SAND</u>				
0 - 5	4.1	4.1		
15 - 50	4.0	8.1		
80 - 150	3.8	11.9		
200 - 350	2.0	13.9		
Average Permeability Millidarcys			5.4	77.0
Average Percent Porosity			12.1	19.4
Average Percent Oil Saturation			54.0	29.9
Average Percent Water Saturation.....			9.0	32.9
Average Oil Content, Bbls./A. Ft.			507.	459.
Total Oil Content, Bbls./Acre.....			811.	6,374.
Average Percent Oil Recovery by Laboratory Flooding Tests.....			0.	0.
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.			0.	0.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre			0.	0.
Total Calculated Oil Recovery, Bbls./Acre.....			0.	0.

The core was sampled in the laboratory after being delivered by the client. The client reported that the core had been out of the ground approximately 10½ hours. Salt water mud was used as a drilling fluid.

Since the core did not respond to flooding susceptibility tests, no calculated recovery is given.

FORMATION CORED

The detailed log of the formation cored is as follows:

<u>Depth Interval, Feet</u>	<u>Description</u>	<u>BARTLESVILLE SAND</u>
772.0 - 773.6	Grayish light brown shaly sandstone.	
<u>TUCKER SAND</u>		
796.0 - 802.8	Dark brown to black carbonaceous sandstone with shale inclusions.	
802.8 - 806.8	Dark brown to black carbonaceous sandstone with coal partings.	
806.8 - 807.5	Black shale.	
807.5 - 809.5	Grayish light brown very shaly conglomeratic sandstone.	
809.5 - 810.6	Light brown shaly sandstone.	
810.6 - 812.0	Gray sandy shale.	
812.0 - 816.0	Black shale.	

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Markan Oil, Inc. Lease Jordan Well No. 54

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbls. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water	Total			Ft.	Cum. Ft.		
1	772.6	12.1	54	9	63	507	5.4	1.6	1.6	811	8.64
2	796.7	22.4	36	24	60	626	203.	1.0	1.0	626	203.00
3	797.4	20.0	43	26	68	667	99.	1.0	2.0	667	99.00
4	798.3	20.8	32	26	58	516	145.	1.0	3.0	516	145.00
5	799.5	21.9	36	28	64	612	347.	1.0	4.0	612	347.00
6	800.5	19.6	39	29	68	593	25.	1.0	5.0	593	25.00
7	801.5	23.5	29	23	52	529	41.	1.0	6.0	529	41.00
8	802.6	23.4	25	32	57	454	103.	0.8	6.8	363	82.40
9	803.3	18.3	25	32	57	355	17.	1.0	7.8	355	17.00
10	804.6	18.5	26	38	64	373	18.	1.0	8.8	373	18.00
11	805.6	17.7	50	20	70	687	1.8	1.0	9.8	687	1.80
12	806.6	16.1	20	49	69	250	2.4	1.0	10.8	250	2.40
13	807.6	12.9	13	50	63	130	0.61	1.0	11.8	130	0.61
14	808.7	20.0	21	40	61	326	84.	1.0	12.8	326	84.00
15	809.6	17.5	23	43	66	312	3.1	0.5	13.3	156	1.55
16	810.4	17.1	24	41	65	318	3.1	0.6	13.9	191	1.86

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Markan Oil, Inc.	Lease	Jordan	Well No.	54
	Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	
		<u>BARTLESVILLE SAND</u>			
	772.0 - 773.6	1.6	5.4	8.64	
		<u>TUCKER SAND</u>			
	796.0 - 802.8	6.8	138.6	942.40	
	802.8 - 810.6	7.1	17.9	127.22	
	796.0 - 810.6	13.9	77.0	1069.62	
		<u>BARTLESVILLE SAND</u>			
	772.0 - 773.6	1.6	54.0	507	811
		<u>TUCKER SAND</u>			
	796.0 - 802.8	6.8	26.7	574	3,906
	802.8 - 810.6	7.1	38.7	348	2,468
	796.0 - 810.6	13.9	32.9	459	6,374

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation		Volume of Water Recovered cc*	Effective Permeability Millidarcys**	Initial Fluid Production Pressure Lbs./Sq./In.	
			%	Bbls./A. Ft.	%	Bbls./A. Ft.	% Oil	% Water				Bbls./A. Ft.
1	772.6	12.3	53	506	0	0	53	11	506	0	Imp.	-
2	796.7	22.5	36	628	0	0	36	27	628	16	0.90	50
3	797.4	20.3	42	661	0	0	42	28	661	0	Imp.	-
4	798.3	20.7	32	514	0	0	32	28	514	22	0.90	45
5	799.5	21.8	36	609	0	0	36	29	609	0	Imp.	-
6	800.5	19.9	38	587	0	0	38	31	587	0	Imp.	-
7	801.5	23.4	29	526	0	0	29	24	526	0	Imp.	-
8	802.6	23.3	25	452	0	0	25	33	452	0	Imp.	-
9	803.3	18.7	24	348	0	0	24	34	348	0	Imp.	-
10	804.6	18.4	26	371	0	0	26	39	371	0	Imp.	-
11	805.6	18.0	49	684	0	0	49	22	684	0	Imp.	-
12	806.6	16.5	19	243	0	0	19	51	243	0	Imp.	-
13	807.6	13.0	13	131	0	0	13	51	131	0	Imp.	-
14	808.7	19.8	21	323	0	0	21	41	323	0	Imp.	-
15	809.6	17.6	23	314	0	0	23	44	314	0	Imp.	-
16	810.4	17.2	24	320	0	0	24	66	320	0	Imp.	-

Company Markan Oil, Inc.

Lease

Jordan

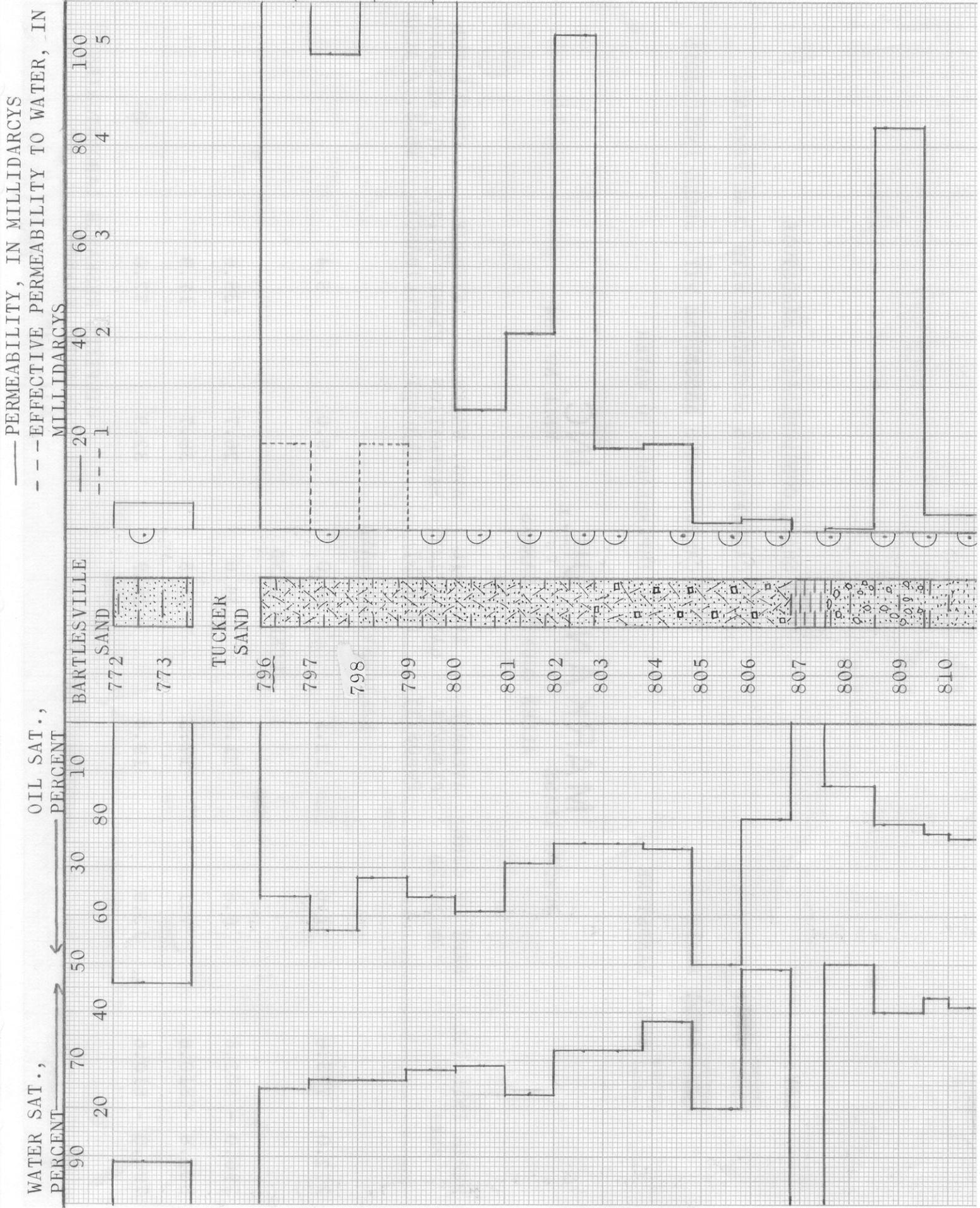
Well No.

54

Notes: cc—cubic centimeter.

*—Volume of water recovered at the time of maximum oil recovery.

**—Determined by passing water through sample which still contains residual oil.



811
812
816

KEY:

 SHALE

 SANDY SHALE

 SHALY SANDSTONE

 SHALY CONGLOMERATIC SANDSTONE

 CARBONACEOUS SANDSTONE WITH COAL PARTINGS

 CARBONACEOUS SANDSTONE WITH SHALE INCLUSIONS

 IMPERMEABLE TO WATER

MARKAN OIL, INC.

JORDON LEASE
ALLEN COUNTY, KANSAS
WELL NO. 54

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE PERCENT POROSITY	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCYS	CALCULATED OIL RECOVERY BBLs. / ACRE
772.0 - 773.6	1.6	12.1	54.0	9.0	5.4	
796.0 - 802.8	6.8	21.6	34.6	26.7	138.6	
802.8 - 810.6	7.1	17.3	25.5	38.7	17.9	
796.0 - 810.6	13.9	19.4	29.9	32.9	77.0	-

BARTLESVILLE SAND

TUCKER SAND

OILFIELD RESEARCH LABORATORIES
CHANUTE, KANSAS
MAY, 1981

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