OILFIELD RESEARCH LABORATORIES
536 NORTH HIGHLAND - CHANUTE, KANSAS - PHONE HE1-2650

January 12, 1968

17-25-16E

Dakota Oil Company
P. O. Box 1313
Aberdeen, South Dakota 57401

Gentlemen:

Enclosed herewith are the results of tests run on the Rotary core taken from your Cummings Lease, Well No. 1, Woodson County, Kansas, and submitted to our laboratory on January 9, 1968.

This core is from a virgin territory and was sampled and the samples sealed in tin cans by a representative of Oilfield Research Laboratories.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:bjo

5 c. - Aberdeen, South Dakota

Cummings 1

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Dakota Oil Company Lease Cummings Well No. 1

Location NE, NE, SW

Section 17 Twp. 25S Rge. 16E County Woodson State Kansas

Name of Sand	Upper Squirrel
Top of Core	893.0
Bottom of Core	899.0
Top of Sand	893.4
Bottom of Sand	897.0
Total Feet of Permeable Sand (Analyzed)	1.9
Total Feet of Floodable Sand	

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.

Average Permeability Millidarcys	3.0
Average Percent Porosity	14.7
Average Percent Oil Saturation	40.7
Average Percent Water Saturation	32.9
Average Oil Content, Bbls./A. Ft.	448.
Total Oil Content, Bbls./Acre	851.
Average Percent Oil Recovery by Laboratory Flooding Tests	
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	
Total Calculated Oil Recovery, Bbls./Acre	
Packer Setting, Feet	
Viscosity, Centipoises @	
A. P. I. Gravity, degrees @ 60 °F	
Elevation, Feet	

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GENERAL INFORMATION & SUMMARY

Company Dakota Oil Company Lease Cummings Well No. 1

Location NE, NE, SW

Section 17 Twp. 25S Rge. 16E County Woodson State Kansas

Name of Sand	Lower Squirrel
Top of Core	945.0
Bottom of Core	964.5
Top of Sand (Cored)	945.0
Bottom of Sand	948.0
Total Feet of Permeable Sand (Analyzed)	1.5
Total Feet of Floodable Sand	

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.

Average Permeability Millidarcys	7.1
Average Percent Porosity	15.3
Average Percent Oil Saturation	49.4
Average Percent Water Saturation	34.2
Average Oil Content, Bbls./A. Ft.	585.
Total Oil Content, Bbls./Acre	1,463.
Average Percent Oil Recovery by Laboratory Flooding Tests	
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	
Total Calculated Oil Recovery, Bbls./Acre	
Packer Setting, Feet	
Viscosity, Centipoises @	
A. P. I. Gravity, degrees @ 60 °F	
Elevation, Feet	

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- LOG -

Company Dakota Oil Company Lease Cummings Well No. 1

Depth Interval, Feet	Description
	UPPER SQUIRREL SAND
893.0 - 893.4	Sandy shale.
893.4 - 894.4	Dark brown shaly sandstone.
894.4 - 895.0	Sandy shale.
895.0 - 895.6	Dark brown shaly sandstone.
895.6 - 896.5	Dark brown slightly shaly sandstone.
896.5 - 897.0	Brown shaly sandstone.
897.0 - 899.0	Sandy shale.
	LOWER SQUIRREL SAND
945.0 - 947.5	Dark brown shaly sandstone.
947.5 - 948.0	Laminated shaly sandstone.
948.0 - 950.0	Laminated sandy shale.
950.0 - 964.5	Sandy shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Dakota Oil Company Lease Cummings Well No. 1

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.		
						UPPER SAND					
1	893.6	15.5	24	39	63	289	1.9	1.0	1.0	289	1.90
2	895.7	15.5	52	29	81	625	5.0	0.4	1.4	250	2.00
3	896.4	12.4	65	24	89	625	3.7	0.5	1.9	312	1.85
						LOWER SAND					
4	945.1	14.5	47	37	84	529	11.	0.7	2.6	370	7.70
5	946.4	14.3	53	42	95	588	Imp.	1.0	3.6	588	0.00
6	947.1	17.3	47	22	69	631	3.6	0.8	4.4	505	2.88