



OILFIELD RESEARCH LABORATORIES

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

June 8, 1979

Lance Ballard
820 Meadowbrook Road West
Iola, Kansas 66749

Gentlemen:

Enclosed herewith are the results of tests run on the rotary core taken from the Cummings A Lease, Well No. 16, Woodson County, Kansas, and submitted to our laboratory on June 1, 1979.

This core was sampled and the samples sealed in plastic bags by a representative of the client.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Benjamin R. Pearman
Benjamin R. Pearman

SAM:cgb

5 c to Iola, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Lance Ballard Lease Cummings A Well No. 16

Location 1840' NSL & 225' EWL SW

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

Name of Sand	- - - - -	Lower Squirrel
Top of Core	- - - - -	959.0
Bottom of Core	- - - - -	968.5
Top of Sand	- - - - -	959.9
Bottom of Sand	- - - - -	968.5
Total Feet of Permeable Sand	- - - - -	5.9
Total Feet of Floodable Sand	- - - - -	

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 10	4.5	4.5
10 - 30	1.4	5.9

Average Permeability Millidarcys	- - - - -	10.9
Average Percent Porosity	- - - - -	17.3
Average Percent Oil Saturation	- - - - -	64.1
Average Percent Water Saturation	- - - - -	21.7
Average Oil Content, Bbls./A. Ft.	- - - - -	858.
Total Oil Content, Bbls./Acre	- - - - -	5,063.
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 Lance Ballard Lease Cummings A Well No. 16

<u>Depth Interval, Feet</u>	<u>Description</u>
959.0 - 959.9	Hard gray fossiliferous calcareous shale.
959.9 - 961.0	Dark brown slightly shaly sandstone.
961.0 - 962.9	Dark brown and gray laminated sandstone and shale.
962.9 - 964.0	Dark brown slightly shaly sandstone.
964.0 - 964.7	Dark brown laminated sandstone and shale.
964.7 - 966.3	Gray sandy shale.
966.3 - 967.0	Dark brown slightly shaly sandstone.
967.0 - 968.1	Gray sandy shale.
968.1 - 968.5	Dark brown sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Lance Ballard Lease Cummings A Well No. 16

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbbs. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water	Total			Ft.	Cum. Ft.		
1	960.5	16.8	51	32	83	665	5.5	1.1	1.1	732	6.05
2	961.5	17.0	54	22	76	712	27.	1.0	2.1	712	27.00
3	962.2	17.2	64	24	88	854	8.8	0.9	3.0	769	7.92
4	963.5	16.5	79	14	93	1011	6.8	1.1	4.1	1112	7.48
5	964.5	16.3	67	28	95	847	0.42	0.7	4.8	593	0.29
6	966.5	18.8	73	14	87	1065	8.8	0.7	5.5	746	6.16
7	968.2	20.1	64	11	75	998	23.	0.4	5.9	399	9.20

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		Lease		Well No.	
Lance Ballard		Cummings A		16	
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
959.9 - 968.5	5.9	10.9	64.10		
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Total Oil Content Bbls./Acre
959.9 - 968.5	5.9	17.3	64.1	21.7	5,063