



OILFIELD RESEARCH LABORATORIES

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

January 9, 1978

Aztec Oil Company
820 Meadowbrook 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. 12, Woodson County, Kansas, and submitted to our laboratory on December 30, 1977.

This core was sampled by a representative of Oilfield Research Laboratories after it was received in the laboratory.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:ss
5 c to Iola, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company	<u>Aztec Oil Company</u>		Lease	<u>Cummings "A"</u>		Well No.	<u>12</u>
Location	<u>2280' FSL & 200' FWL</u>						
Section	<u>17</u>	Twp.	<u>25S</u>	Rge.	<u>16E</u>	County	<u>Woodson</u> State <u>Kansas</u>
Name of Sand	-						Squirrel
Top of Core	- - - - - (Received) - - - - -						957.7
Bottom of Core	- - - - - (Received) - - - - -						975.0
Top of Sand	- - - - - (Received) - - - - -						958.6
Bottom of Sand	- - - - - (Received) - - - - -						975.0
Total Feet of Permeable Sand	-						11.6
Total Feet of Floodable Sand	-						
Distribution of Permeable Sand:							
Permeability Range		Feet		Cum. Ft.			
Millidarcys							
0 - 5		3.7		3.7			
5 - 10		1.4		5.1			
10 - 30		4.9		10.0			
30 & above		1.6		11.6			
Average Permeability Millidarcys	-						21.5
Average Percent Porosity	-						17.4
Average Percent Oil Saturation	-						62.9
Average Percent Water Saturation	-						21.2
Average Oil Content, Bbls./A. Ft.	-						850.
Total Oil Content, Bbls./Acre	-						9,862.
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 Aztec Oil Company Lease Cummings"A" Well No. 12

<u>Depth Interval</u> <u>Feet</u>	<u>Description</u>
957.7 - 958.6	Hard dark limestone.
958.6 - 962.1	Dark fine grained sandstone.
962.1 - 963.1	Gray sandy shale.
963.1 - 968.0	Dark fine grained shaly sandstone.
968.0 - 969.4	Gray sandy shale.
969.4 - 970.6	Dark slightly carbonaceous sandstone.
970.6 - 975.0	Dark carbonaceous sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Aztec Oil Company Lease Cummings "A" Well No. 12

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	958.7	10.9	52	28	80	440	4.4	0.5	0.5	220	2.20
2	959.5	15.7	69	22	91	841	13.	0.8	1.3	673	10.40
3	960.4	16.6	51	26	77	657	23.	0.9	2.2	591	20.70
4	961.2	19.7	60	22	82	917	13.	0.8	3.0	734	10.40
5	962.0	18.8	68	25	93	992	6.2	0.5	3.5	496	3.10
6	963.2	17.5	60	18	78	815	53.	0.6	4.1	489	31.80
7	964.2	17.0	51	29	80	673	20.	0.9	5.0	606	18.00
8	965.0	18.7	71	17	88	1030	9.4	0.9	5.9	927	8.46
9	966.0	18.1	59	22	81	829	101.	1.0	6.9	829	101.00
10	967.0	17.5	56	20	76	760	27.	1.5	8.4	1140	40.50
11	969.7	19.4	72	17	89	1084	1.3	1.2	9.6	1301	1.56
12	971.0	16.6	72	17	89	927	0.71	1.0	10.6	927	0.71
13	973.0	16.4	73	19	92	929	0.80	1.0	11.6	929	0.80

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Aztec Oil Company Lease Cummings "A" Well No. 12

Depth Interval Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
958.6 - 968.0	8.4	29.3	246.56
969.4 - 973.5	3.2	0.96	3.07
958.6 - 973.5	11.6	21.5	249.63

Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
958.6 - 968.0	8.4	17.3	59.3	22.5	798	6,705
969.4 - 973.5	3.2	17.6	72.3	17.6	987	3,157
958.6 - 973.5	11.6	17.4	62.9	21.2	850	9,862