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

August 21, 1981

Hickory Creek Oil Company
P. O. Box 379
Parsons, Kansas 67357

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Fogelman Lease, Well No. 1, located in Neosho County, Kansas and submitted to our laboratory on August 18, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel by B.L.

Sanford A. Michel

SAM/kas

5 c to Parsons, Kansas

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GENERAL INFORMATION & SUMMARY

Company Hickory Creek Oil Company Lease Fogelman Well No. 1

Location

Section 26 Twp. 30S Rge. 17E County Neosho State Kansas

Elevation, Feet	
Name of Sand	Skinner
Top of Core	663.0
Bottom of Core	668.4
Top of Sand	663.0
Bottom of Sand (Tested)	666.8
Total Feet of Permeable Sand	0.7
Total Feet of Floodable Sand	0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 2	0.7	0.7

Average Permeability Millidarcys	1.4
Average Percent Porosity	13.2
Average Percent Oil Saturation	25.0
Average Percent Water Saturation	42.6
Average Oil Content, Bbls./A. Ft.	257.
Total Oil Content, Bbls./Acre	823.
Average Percent Oil Recovery by Laboratory Flooding Tests	0.
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	0.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	0.
Total Calculated Oil Recovery, Bbls./Acre	0.

The core was sampled and the samples sealed in plastic bags by a representative of the client. Fresh water mud was used as a drilling fluid. The core was reported to be from a virgin area.

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:

Depth Interval, Feet	Description
663.0 - 664.7	Grayish light brown shaly sandstone.
664.7 - 665.3	Grayish light brown calcareous shaly sandstone.
665.3 - 666.8	Grayish light brown shaly sandstone.
666.8 - 667.9	Grayish light brown calcareous shaly sandstone.
667.9 - 668.4	Gray shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Hickory Creek Oil Company Lease Fogelman 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.		
1	663.5	14.3	33	41	74	366	Imp.	1.0	1.0	366	0.00
2	664.5	13.9	18	45	63	194	1.4	0.7	1.7	136	0.98
3	665.4	12.5	17	43	60	165	Imp.	0.7	2.4	116	0.00
4	666.4	11.8	28	42	70	256	Imp.	0.8	3.2	205	0.00

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Hickory Creek Oil Company Lease Fogelman Well No. 1

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
663.0 - 666.8	0.7	1.4	0.98

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
663.0 - 666.8	3.2	13.2	25.0	42.6	257	823

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company Hickory Creek Oil Company Lease Fogelman Well No. 1

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	663.5	14.2	33	364	0	0	33	42	364	0	Imp.	-
2	664.5	13.8	18	193	0	0	18	47	193	0	Imp.	-
3	665.4	12.6	17	166	0	0	17	44	166	0	Imp.	-
4	666.4	11.9	28	258	0	0	28	43	258	0	Imp.	-

Notes: cc—cubic centimeter.

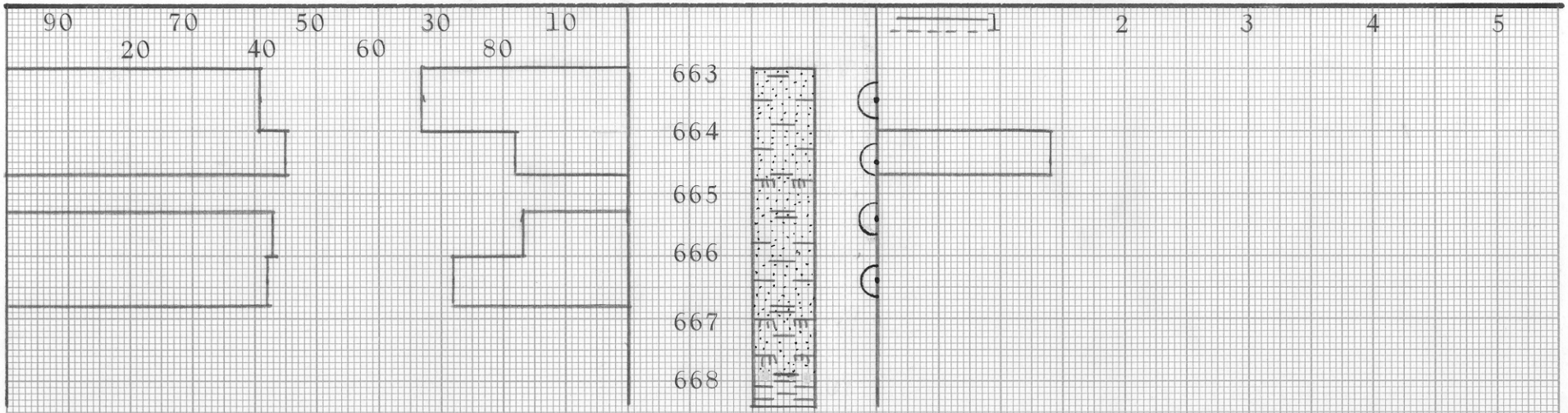
*—Volume of water recovered at the time of maximum oil recovery.

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

WATER SAT., PERCENT → ← OIL SAT., PERCENT

PERMEABILITY, IN MILLIDARCYS

EFFECTIVE PERMEABILITY TO WATER, IN MILLIDARCYS



KEY:

SHALE

SHALY SANDSTONE

SHALY CALCAREOUS SANDSTONE

IMPERMEABLE TO WATER

HICKORY CREEK OIL COMPANY

FOGELMAN LEASE WELL NO. 1

NEOSHO COUNTY, KANSAS

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
663.0 - 666.8	3.2	13.2	25.0	42.6	1.4	-

OILFIELD RESEARCH LABORATORIES
CHANUTE, KANSAS
AUGUST, 1981