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

November 13, 1981

McGown Drilling
Box 216
Mound City, Kansas 66056

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Layman Lease, Well No. 2, located in Johnson County, Kansas and submitted to our laboratory on November 3, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel
by B.L.

Sanford A. Michel

SAM/mkf

5 c to Mound City, Ks.

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GENERAL INFORMATION & SUMMARY

Company McGown Drilling Lease Layman Well No. 2

Location

Section 10 Twp. 15S Rge. 25E County Johnson State Kansas

Elevation, Feet	
Name of Sand	
Top of Core	610.0
Bottom of Core	618.8
Top of Sand	610.0
Bottom of Sand	617.0
Total Feet of Permeable Sand	3.3
Total Feet of Floodable Sand	0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 4	2.7	2.7
40 - 45	0.6	3.3

Average Permeability Millidarcys	9.5
Average Percent Porosity	17.2
Average Percent Oil Saturation	44.1
Average Percent Water Saturation	46.5
Average Oil Content, Bbls./A. Ft.	577.
Total Oil Content, Bbls./Acre	2,653.
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.

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
610.0 - 610.6	Brown sandstone with fine intermittant shale partings.
610.6 - 611.9	Brown and gray laminated sandstone and shale.
611.9 - 612.7	Gray slightly sandy shale.
612.7 - 613.1	Grayish brown shaly sandstone with micaceous partings.
613.1 - 614.9	Brown and gray laminated sandstone and shale.
614.9 - 616.5	Gray shale with light gray sandstone partings.
616.5 - 617.0	Brown and gray laminated sandstone and shale.
617.0 - 618.8	Gray shale with light gray sandstone partings.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company McGown Drilling Lease Layman Well No. 2

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	610.3	20.5	41	42	83	652	40.	0.6	0.6	391	24.00
2	611.5	15.1	54	41	95	633	Imp.	1.3	1.9	823	0.00
3	612.8	14.1	64	34	98	700	2.0	0.4	2.3	280	0.80
4	613.6	19.5	34	47	81	514	2.8	1.0	3.3	514	2.80
5	614.6	16.9	33	63	96	433	2.6	0.8	4.1	346	2.08
6	616.6	17.5	44	49	93	597	3.5	0.5	4.6	299	1.75

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company McGown Drilling Lease Layman Well No. 2

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
610.0 - 617.0	3.3	9.5	31.43

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
610.0 - 617.0	4.6	17.2	44.1	46.5	577	2,653

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

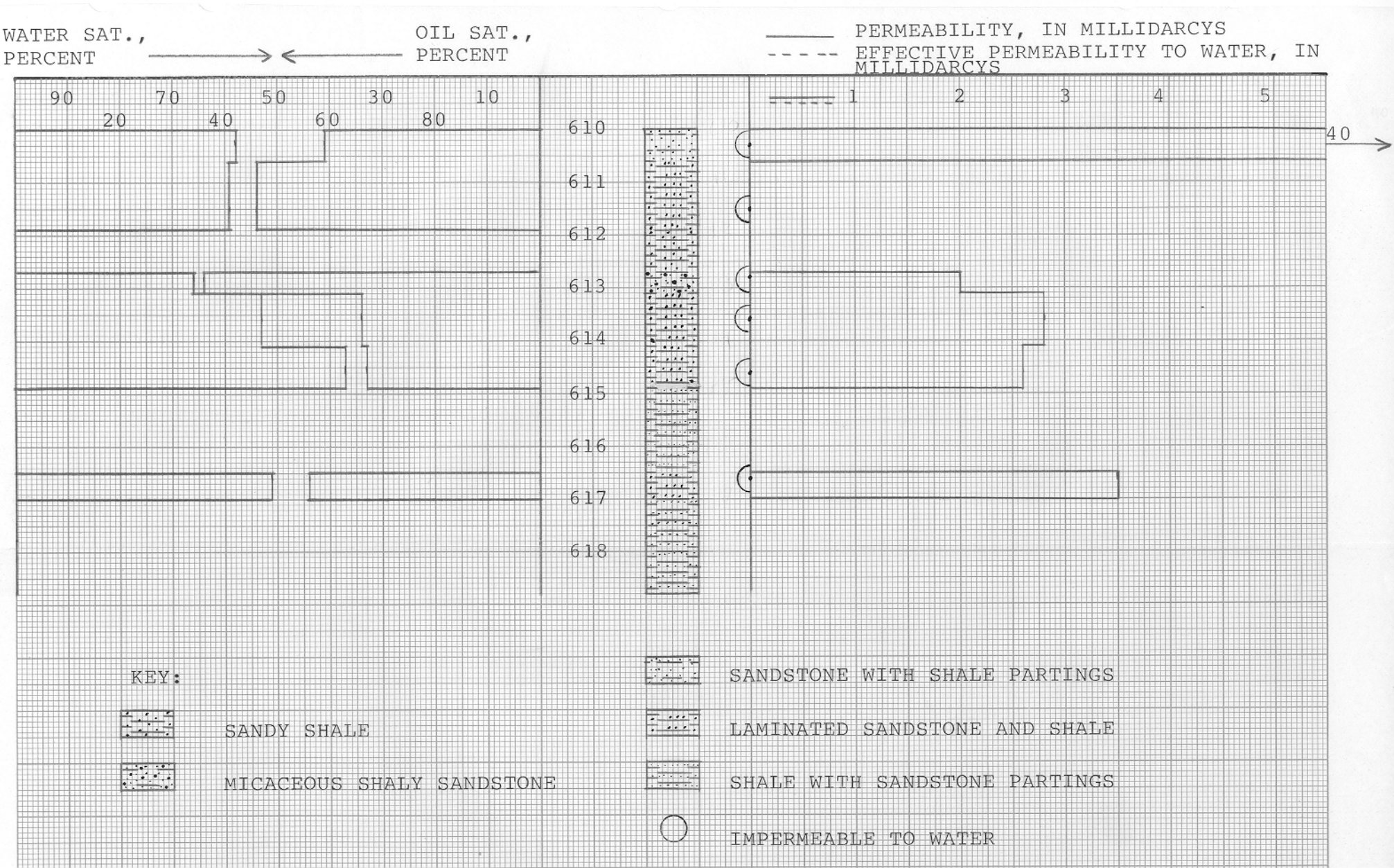
Company McGown Drilling Lease Layman Well No. 2

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	610.3	20.4	41	649	0	0	41	43	649	0	Imp.	-
2	611.5	15.5	53	637	0	0	53	43	637	0	Imp.	-
3	612.8	14.2	64	705	0	0	64	34	705	0	Imp.	-
4	613.6	19.4	34	512	0	0	34	48	512	0	Imp.	-
5	614.6	16.7	33	428	0	0	33	64	428	0	Imp.	-
6	616.6	17.4	44	594	0	0	44	50	594	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
90 70 50 30 10
20 40 60 80
1 2 3 4 5
40
610
611
612
613
614
615
616
617
618
KEY:
SANDY SHALE
MICACEOUS SHALY SANDSTONE
SANDSTONE WITH SHALE PARTINGS
LAMINATED SANDSTONE AND SHALE
SHALE WITH SANDSTONE PARTINGS
IMPERMEABLE TO WATER

MC GOWN DRILLING

LAYMAN LEASE

JOHNSON COUNTY, KANSAS

WELL NO. 2

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
610.0 - 617.0	4.6	17.2	44.1	46.5	9.5	-

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CHANUTE, KANSAS
NOVEMBER, 1981

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