

OILFIELD RESEARCH LABORATORIES

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

May 18, 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 Slater Lease, Well No. 1, located in Johnson County, Kansas and submitted to our laboratory on May 6, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

5 c to Mound City, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company McGown Drilling Lease Slater Well No. 1
 Location 100' EWL & 125' NSL SE $\frac{1}{4}$ SE $\frac{1}{4}$
 Section 33 Twp. 14S Rge. 25E County Johnson State Kansas

Elevation, Feet

Name of Sand.....

Bartlesville

Top of Core

636.0

Bottom of Core

648.0

Top of Sand

636.0

Bottom of Sand

647.5

Total Feet of Permeable Sand

9.6

Total Feet of Floodable Sand

0.

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
115 - 130	2.4	2.4
130 - 160	3.5	5.9
190 - 235	2.9	8.8
280 - 285	0.8	9.6

Average Permeability Millidarcys

168.0

Average Percent Porosity

22.1

Average Percent Oil Saturation

49.4

Average Percent Water Saturation

35.8

Average Oil Content, Bbls./A. Ft.

878.

Total Oil Content, Bbls./Acre

10,098.

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.

-2-

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:

<u>Depth Interval, Feet</u>	<u>Description</u>
636.0 - 637.3	Gray shaly sandstone.
637.3 - 637.6	Light brown sandstone.
637.6 - 638.0	Gray sandy shale.
638.0 - 642.2	Brown sandstone.
642.2 - 642.8	Light brown and gray laminated sandstone and shale.
642.8 - 647.5	Brown sandstone.
647.5 - 648.0	Coal.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company McGown Drilling Lease Slater 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	636.5	13.4	20	61	81	203	Imp.	1.3	1.3	264	0.00
2	637.5	15.2	22	64	86	259	127.	0.3	1.6	78	38.10
3	638.5	24.8	58	26	84	1116	158.	1.0	2.6	1116	158.00
4	639.5	21.3	30	41	71	496	145.	1.0	3.6	496	145.00
5	640.6	19.4	61	32	93	918	121.	1.1	4.7	1010	133.10
6	641.5	22.4	58	35	93	1008	133.	1.5	6.2	1512	199.50
7	642.5	14.7	53	40	93	604	Imp.	0.6	6.8	362	0.00
8	643.5	24.6	59	28	87	1126	115.	1.0	7.8	1126	115.00
9	644.5	26.8	48	35	83	998	231.	1.0	8.8	998	231.00
10	645.4	25.7	58	26	84	1156	280.	0.8	9.6	925	224.00
11	646.5	26.4	55	26	81	1127	196.	1.0	10.6	1127	196.00
12	647.4	26.3	59	28	87	1204	192.	0.9	11.5	1084	172.80

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		McGown Drilling		Lease		Slater		Well No.		1	
Depth Interval, Feet		Feet of Core Analyzed		Average Permeability, Millidarcys		Permeability Capacity Ft. x Md.					
636.0 - 642.8		4.9		137.5		673.70					
642.8 - 647.5		4.7		199.7		938.80					
636.0 - 647.5		9.6		168.0		1,612.50					
Depth Interval, Feet		Feet of Core Analyzed		Average Percent Oil Saturation		Average Percent Water Saturation		Average Oil Content Bbl./A. Ft.		Total Oil Content Bbls./Acre	
636.0 - 642.8		6.8		45.1		40.8		711		4,838	
642.8 - 647.5		4.7		55.6		28.7		1,119		5,260	
636.0 - 647.5		11.5		49.4		35.8		878		10,098	

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Well No. 1

Slater

Lease

McGown Drilling

Company

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.
			%	Bbbs./A. Ft.	%	Bbbs./A. Ft.	% Oil	% Water	Bbbs./A. Ft.			
1	636.5	13.2	20	205	0	0	20	62	205	0	Imp.	-
2	637.5	15.3	22	261	0	0	22	65	261	0	Imp.	-
3	638.5	25.1	57	1110	0	0	57	28	1110	320	7.50	30
4	639.5	21.4	30	498	0	0	30	61	498	0	Imp.	-
5	640.6	19.2	62	924	0	0	62	31	924	0	Imp.	-
6	641.5	22.4	58	1008	0	0	58	35	1008	40	2.62	20
7	642.5	14.6	53	600	0	0	53	41	600	0	Imp.	-
8	643.5	24.7	59	1131	0	0	59	29	1131	22	0.64	35
9	644.5	26.6	48	991	0	0	48	46	991	74	2.10	35
10	645.4	25.7	58	1156	0	0	58	30	1156	10	0.45	50
11	646.5	26.3	55	1122	0	0	55	27	1122	0	Imp.	-
12	647.4	26.2	59	1199	0	0	59	29	1199	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.

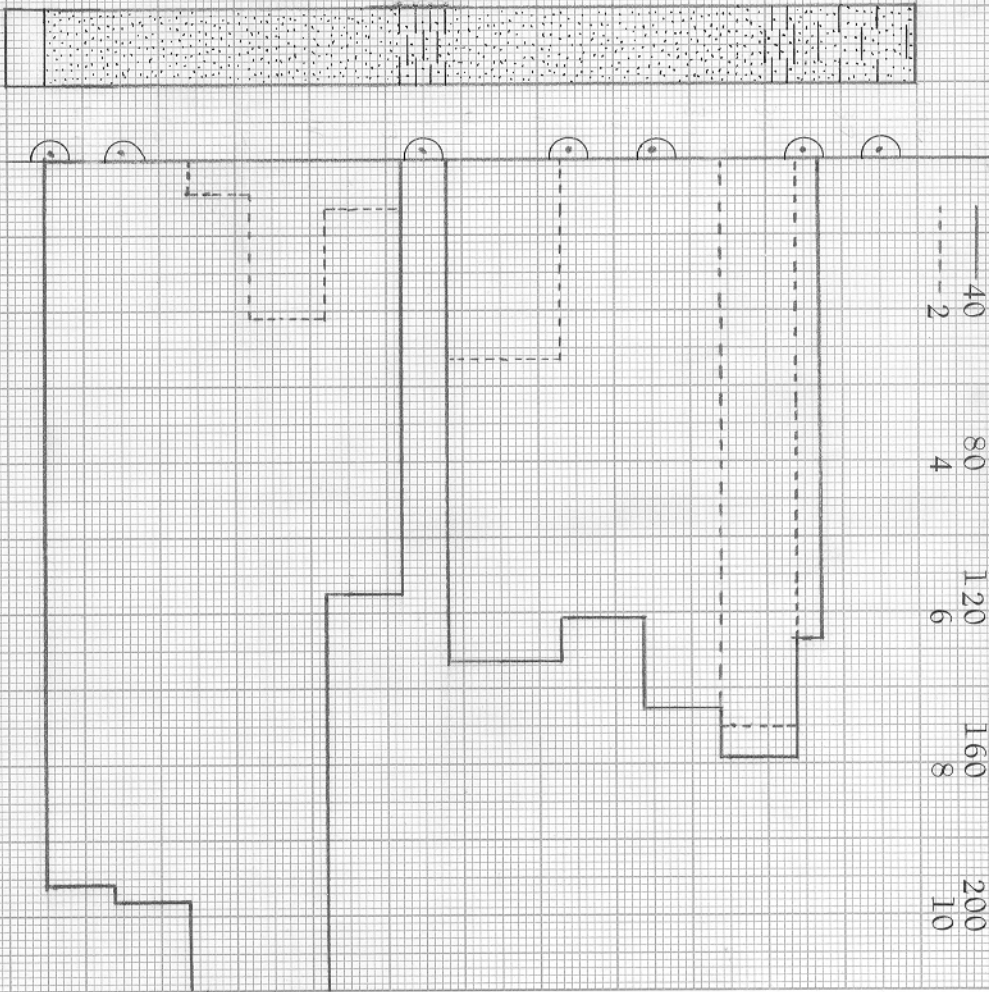
WATER SAT.,
PERCENT

OIL SAT.,
PERCENT



PERMEABILITY, IN MILLIDARCS

EFFECTIVE PERMEABILITY TO WATER, IN MILLIDARCS



KEY:

-  SANDSTONE
-  SANDY SHALE
-  SHALY SANDSTONE

-  LAMINATED SANDSTONE AND SHALE
-  COAL
-  IMPERMEABLE TO WATER

231
280

MC GOWN DRILLING

SLATER LEASE

JOHNSON COUNTY, KANSAS

WELL NO. 1

DEPTH INTERVAL, FEET	FEET OF COKE ANALYZED	AVERAGE PERCENT POROSITY	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCS	CALCULATED OIL RECOVERY BBLs. / ACRE
636.0 - 642.8	6.8	19.4	45.1	40.8	137.5	
642.8 - 647.5	4.7	26.0	55.6	28.7	199.7	
636.0 - 647.5	11.5	22.1	49.4	35.8	168.0	-

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CHANUTE, KANSAS
MAY, 1981

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