

HICKORY CREEK OIL COMPANY

CORE ANALYSIS REPORT

WELL NO. HCO-162

McBown # 9

OILFIELD RESEARCH LABORATORIES

536 N. HIGHLAND

CHANUTE, KANSAS



OILFIELD RESEARCH LABORATORIES

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

May 30, 1980

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

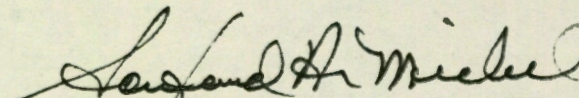
Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from Well No. HCO-162, and submitted to our laboratory on April 25, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES


Sanford A. Michel

SAM/tem

4 c to Parsons, Kansas
1 c to Chanute, Kansas

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GENERAL INFORMATION & SUMMARY

Company Hickory Creek Oil Company Lease - Well No. HCO-162

Location -

Section - Twp. - Rge. - County - State -

Elevation, Feet - - - - -

Name of Sand - - - - -

Top of Core - - - - - 176.5

Bottom of Core - - - - - 197.3

Top of Sand - - - - - 177.3

Bottom of Sand - - - - - 196.7

Total Feet of Permeable Sand - - - - - 10.9

Total Feet of Floodable Sand - - - - - 0.0

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 1 2.3 2.3

1 - 5 3.7 6.0

5 - 10 4.9 10.9

Average Permeability Millidarcys - - - - - 4.8

Average Percent Porosity - - - - - 15.9

Average Percent Oil Saturation - - - - - 35.0

Average Percent Water Saturation - - - - - 49.7

Average Oil Content, Bbls./A. Ft. - - - - - 437.

Total Oil Content, Bbls./Acre - - - - - 5,206.

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

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

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>
176.5 - 177.3	Gray sandy shale.
177.3 - 181.8	Brown and gray laminated sandstone and shale.
181.8 - 182.7	Brown shaly sandstone.
182.7 - 183.9	Gray sandy shale.
183.9 - 186.6	Brown shaly sandstone.
186.6 - 191.0	Gray sandy shale.
191.0 - 192.0	Brown shaly sandstone.
192.0 - 192.2	Gray sandy shale.
192.2 - 193.0	Brown shaly sandstone.
193.0 - 193.9	Brown and gray laminated sandstone and shale.
193.9 - 196.7	Brown shaly sandstone.
196.7 - 197.3	Gray sandy shale.

RESULTS OF SATURATION & PERMEABILITY TESTS

Company Hickory Creek Oil Company Lease - M 9 Well No. HCO-162

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	177.5	13.2	20	76	96	205	0.26	0.7	0.7	164	0.21
2	178.5	14.3	17	71	88	189	0.62	1.0	1.7	189	0.62
3	179.5	13.9	22	65	87	237	1.4	1.0	2.7	237	1.40
4	180.5	10.7	15	80	95	125	Imp.	1.0	3.7	125	0.00
5	182.5	15.8	32	38	70	392	9.4	0.9	4.6	353	8.46
6	184.5	17.4	43	41	84	581	5.4	1.1	5.7	639	5.94
7	185.5	17.0	34	42	76	448	7.6	1.0	6.7	448	7.60
8	186.5	16.9	34	48	82	446	0.88	0.6	7.3	268	0.53
9	191.5	17.8	33	48	81	456	4.5	1.0	8.3	456	4.50
10	192.5	16.8	34	49	83	443	8.4	0.8	9.1	354	6.72
11	194.3	17.8	66	22	88	911	9.9	1.1	10.2	1002	10.89
12	195.5	12.2	62	33	95	587	2.9	1.0	11.2	587	2.90
13	196.5	23.6	30	28	58	549	3.8	0.7	11.9	384	2.66
2425.3			207.4			641			1-5w = 62%		
						55.06					

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Hickory Creek Oil Company Lease - Well No. HCO-162

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
177.3 - 181.0	2.7	0.83	2.23
181.8 - 196.7	8.2	6.1	50.20
177.3 - 196.7	10.9	4.8	52.43

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
177.3 - 181.0	3.7	13.4	18.9	74.8	193	715
181.8 - 196.7	8.2	17.1	42.2	38.3	548	4,491
177.3 - 196.7	11.9	15.9	35.0	49.7	437	5,206

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company Hickory Creek Oil Company

Lease - M9

Well No. HCO-162

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	177.5	13.5	19	199	0	0	19	77	199	0	Imp.	-
2	178.5	14.3	17	189	0	0	17	73	189	0	Imp.	-
3	179.5	14.1	21	230	0	0	21	68	230	0	Imp.	-
4	180.5	11.0	14	119	0	0	14	82	119	0	Imp.	-
5	182.5	16.2	30	377	0	0	30	42	377	11	0.15	45
6	184.5	17.4	43	580	0	0	43	42	580	0	Imp.	-
7	185.5	17.3	33	443	0	0	33	45	443	0	Imp.	-
8	186.5	17.0	34	448	0	0	34	48	448	0	Imp.	-
9	191.5	17.4	34	459	0	0	34	49	459	0	Imp.	-
10	192.5	17.0	33	435	0	0	33	51	435	0	Imp.	-
× 11	194.3	17.5	66	896	0	0	66	25	896	0	Imp.	-
× 12	195.5	12.0	62	577	0	0	62	33	577	0	Imp.	-
13	196.5	23.1	32	573	0	0	32	33	573	0	Imp.	-
							438			0.15		

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.