

OILFIELD RESEARCH LABORATORIES

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

September 29, 1980

James E. Russell Petroleum, Inc.
P. O. Box 2618
Abilene, Texas 79604

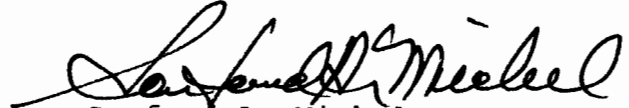
Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the North Hyde Lease, Well No. O-3, Anderson County, Kansas and submitted to our laboratory on June 24, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES


Sanford A. Michel

SAM/ks

3 c to Abilene, Texas
2 c to Chanute, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

James E. Russell

Company Petroleum, Inc. Lease North Hyde Well No. 0-3

Location 2420' SNL & 1540' EWL - SW $\frac{1}{2}$

Section 22 Twp. 22S Rge. 19E County Anderson State Kansas

Elevation, Feet . Datum: Mean Sea Level (G.L.) 1108.6

Name of Sand Squirrel

Top of Core 818.0

Bottom of Core 836.0

Top of Sand 819.8

Bottom of Sand 825.7

Total Feet of Permeable Sand 4.8

Total Feet of Floodable Sand 0.0

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 10 1.8 1.8

10 - 30 2.0 3.8

60 - 70 1.0 4.8

Average Permeability Millidarcys 23.3

Average Percent Porosity 16.5

Average Percent Oil Saturation 19.7

Average Percent Water Saturation 54.7

Average Oil Content, Bbls./A. Ft. 261.

Total Oil Content, Bbls./Acre 1539.

Average Percent Oil Recovery by Laboratory Flooding Tests 0.0

Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. 0.0

Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre 0.0

Total Calculated Oil Recovery, Bbls./Acre 0.0

The core was sampled by a representative of Oilfield Research Laboratories. Fresh water mud was used as a drilling fluid. The core was from a non-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:

<u>Depth Interval, Feet</u>	<u>Description</u>
818.0 - 819.8	Shale, gray sandy.
819.8 - 820.9	Sandstone, grayish light brown, very shaly. First oil show.
820.9 - 821.8	Sandstone, shaly, slightly calcareous, light brown.
821.8 - 824.8	Sandstone, light brown, slightly calcareous.
824.8 - 825.7	Sandstone, grayish brown, very shaly.
825.7 - 836.0	Shale, gray sandy.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company James E. Russell Petroleum, Inc. Lease North Hyde Well No. O-3

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	820.6	10.5	15	82	97	122	Imp.	1.1	1.1	134	0.00
2	821.3	16.9	26	34	60	341	5.4	0.9	2.0	307	4.86
3	822.8	19.9	16	49	65	247	26.	1.2	3.2	296	31.20
4	823.8	20.8	29	35	64	468	60.	1.0	4.2	468	60.00
5	824.7	18.0	18	52	70	251	19.	0.8	5.0	201	15.20
6	825.6	12.7	15	74	89	148	0.84	0.9	5.9	133	0.76

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	James E. Russell Petroleum, Inc.	Lease	North Hyde	Well No.	0-3							
	Depth Interval, Feet	819.8 - 825.7	Feet of Core Analyzed	4.8	Average Permeability, Millidarcys	23.3	Permeability Capacity Ft. x Md.	112.02				
	Depth Interval, Feet	819.8 - 825.7	Feet of Core Analyzed	5.9	Average Percent Porosity	16.5	Average Percent Oil Saturation	19.7	Average Oil Content Bbl./A. Ft.	261	Total Oil Content Bbls./Acre	1,539

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company James E. Russell Petroleum, Inc. Lease North Hyde Well No. 0-3

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			
1	820.6	10.6	15	123	0	0	15	82	0	Imp.	-
2	821.3	16.7	26	337	0	0	26	36	0	Imp.	-
3	822.8	20.0	16	248	0	0	16	80	261	9.93	10
4	823.8	20.5	30	477	0	0	30	68	316	10.83	15
5	824.7	18.1	18	253	0	0	18	80	176	3.00	20
6	825.6	13.1	14	142	0	0	14	76	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.