

May 22, 1950

Susmie Oil Company
P. O. Box 1894
Wichita, Kansas

Attention: Mr. O. A. Sutton

Gentlemen:

Enclosed herewith is the report of the partial analysis made on the small Keystone barrel core taken from the Remlinger Lease, Well No. 1, Woodson County, Kansas, and submitted to our laboratory on May 14, 1950.

The oil recovery value given on the general information sheet is only for that part of the sand section analyzed. Furthermore, in calculating this recovery, it was assumed that the well was drilled in virgin territory and that the true water saturation of the sand is 15 percent.

Very truly yours,

OIL FIELD RESEARCH LABORATORIES

William M. Sturdevant

WMS:bb
c.c. to Mr. G. M. Smith

24-23-16E

Remlinger 1

SUSMIO OIL COMPANY

CORE ANALYSIS REPORT

REMLINGER LEASE

WELL NO. 1

WOODSON COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

MAY 22, 1950

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Susmie Oil Company Lease Remlinger Well No. 1

Location NW₄

Section 24 Twp. 23S Rge. 16E County Woodson State Kansas

Name of Sand	Squirrel
Top of Core	947.00
Bottom of Core	958.20
Top of Sand (according to driller)	942.00
Bottom of ^{pay} Sand	950.65
Total Feet of ^{effective} Permeable Sand analyzed	3.65

Distribution of Permeable Sand:

Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 5	0.25	0.25
5 - 40	0.50	0.75
40 - 45	2.35	3.10

Average Permeability, Millidarcys	37.11
Average Percent Porosity	23.14
Average Percent Oil Saturation	44.12
Average Percent Water Saturation	38.67
Average Oil Content, Bbls./A. Ft.	794.
Total Oil Content, Bbls./Acre	6,074.
Average Percent Oil Recovery by Laboratory Flooding Tests	9.30
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	183.
Aotal Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	669.
Total Calculated Oil Recovery, Bbls./Acre	3,000.
Packer Setting, Feet	
Viscosity, Centipoises @	
A. P. I. Gravity, degrees @ 60 °F	

OIL FIELD RESEARCH LABORATORIES

LOG

Company Sumco Oil Company Lease Remlinger Well No. 1

The detailed log of the formation cored is as follows:

<u>Depth Interval,</u> <u>Feet</u>	<u>Description</u>
947.00 - 950.65	- Dark brown fine grained micaceous sandstone.
950.65 - 950.80	- Brown fine grained laminated micaceous shaley sandstone.
950.80 - 952.00	- Brown fine grained micaceous sandstone.
952.00 - 952.25	- Laminated sandstone and shale.
952.25 - 954.65	- Brown fine grained finely laminated micaceous shaley sandstone.
954.65 - 958.20	- Finely laminated sandy shale.

Oil Field Research Laboratories
RESULTS OF PERMEABILITY TESTS
TABLE I

Company Sunco Oil Company Lease Remlinger Well No. 1

Sample No.	Depth, Feet	Permeability Millidarcys	Feet of Core		Permeability Capacity Ft. x Md.
			Ft.	Cum. Ft.	
1	950.60	42.	0.35	0.35	14.70
2	951.16	42.	0.70	1.05	29.40
3	951.85	30.	0.50	1.55	15.00
4	952.17	3.0	0.25	1.80	0.75
5	953.41	43.	0.60	2.40	25.80
6	954.27	42.	0.70	3.10	29.40

Oil Field Research Laboratories

SUMMARY OF PERMEABILITY TESTS

TABLE II

Company	Susac Oil Company	Lease	Remlinger	Well No.	1
	Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity, Ft. x Md.	
	750.30 - 754.50	3.10	37.11	115.05	

Oil Field Research Laboratories
RESULTS OF SATURATION TESTS

TABLE III

Company Susnio Oil Company Lease Remlinger Well No. 1

Sat. No.	Depth, Feet	Effective Porosity Percent	Percent Saturation		Oil Content Bbls./A. Ft.	Feet of Core		Total Oil Content Bbls./Acre
			Oil	Water		Total	Ft.	
F-1	947.43	25.6	43.4	-	862	1.00	1.00	862
F-2	948.62	26.3	46.8	-	957	1.00	2.00	957
F-3	949.46	23.2	42.8	-	771	0.80	2.80	617
F-4A	950.20	24.5	42.8	-	815	0.85	3.65	693
4	950.72	23.2	44.7	33.3	805	1.35	5.00	1,090
F-5	952.08	14.7	40.4	-	462	0.25	5.25	115
6	953.13	21.6	44.0	41.6	733	1.45	6.70	1,070
7	954.17	20.4	44.5	41.5	705	0.95	7.65	670
Total - - -						Total - - -		6,074

Oil Field Research Laboratories

SUMMARY OF SATURATION TESTS

TABLE IV

Company	Susamio Oil Company	Lease	Remlinger	Well No.	1	
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbls./A. Ft.	Total Oil Content Bbls./Acre
947.00-950.65	3.65	25.01	44.08	-	857	3,129
950.65-954.65	4.00	21.43	44.15	38.67	736	2,945
947.00-954.65	7.65	23.14	44.12	38.67	794	6,074

Oil Field Research Laboratories
RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Sunco Oil Company Lease Remlinger 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.
			Percent	Bbls./A. Ft.	Percent	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
1	947.43	25.6	43.4	862	9.5	189	33.9	57.7	673	140	21.60	5
2	948.62	26.3	46.8	957	12.3	252	34.5	63.7	705	135	25.90	10
3	949.46	23.2	42.8	771	5.0	90	37.8	54.3	681	73	10.40	10
4A	950.20	24.5	42.8	815	9.6	183	33.2	59.0	632	108	27.70	10
5	952.08	14.7	40.4	462	0.0	0	40.4	49.6	462	-	Imp.	50 ⁺

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.
"A" samples drilled out after core is received at laboratory.

Oil Field Research Laboratories

SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company	Sumo Oil Company	Lease	Remlinger	Well No.	1
Depth, Interval, Feet	947.00 - 950.65				
Feet of Core Analyzed	3.65				
Average Percent Porosity	25.01				
Average Percent Original Oil Saturation	44.08				
Average Percent Oil Recovery	9.30				
Average Percent Residual Oil Saturation	34.78				
Average Percent Residual Water Saturation	58.93				
Average Percent Total Residual Fluid Saturation	93.71				
Average Original Oil Content, Bbls./A. Ft.	857.				
Average Oil Recovery, Bbls./A. Ft.	183.				
Average Residual Oil Content, Bbls./A. Ft.	674.				
Total Original Oil Content, Bbls./Acre	3,129.				
Total Oil Recovery, Bbls./Acre	669.				
Total Residual Oil Content, Bbls./Acre	2,460.				
Average Effective Permeability, Millidarcys	21.79				
Average Initial Fluid Production Pressure, p.s.i.	8.7				

NOTE: Only those samples which recovered oil were used in calculating the above averages.