

OILFIELD RESEARCH LABORATORIES

813 EAST SIXTH
OKMULGEE, OKLAHOMA
PHONE 1486

- REGISTERED ENGINEERS -

Chanute, Kansas

536 N. HIGHLAND
CHANUTE, KANSAS
PHONE 728

February 27, 1959

Nicholas Sage
111 South Meramac
Clayton 5, Missouri

Dear Sir:

Enclosed herewith are the results of tests run on the 3" Rotary core samples taken from the D. W. Hughes Lease, Well No. Sage #3, Montgomery County, Kansas, and submitted to our laboratory by Mr. Walt Lacey on February 23, 1959.

These core samples were sealed in plastic bags by a representative of the client.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl L. McElrea
Carl L. McElrea

CLM:cs

5 c.

15-31-15E



Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Nicholas Sage Lease D. W. Hughes Well No. Sage #3

Location SW $\frac{1}{4}$

Section 15 Twp. 31S Rge. 15E County Montgomery State Kansas

Name of Sand	-	Peru
Top of Core	-	667.0
Bottom of Core	-	710.0
Top of Sand	-	?
Bottom of Sand	-	?
Total Feet of Permeable Sand	-	15.0
(Analyzed)		
Total Feet of Floodable Sand	-	-

Distribution of Permeable Sand:
Permeability Range
Millidarcys

	Feet	Cum. Ft.
0 - 10	4.0	4.0
10 - 20	4.0	8.0
20 - 50	4.0	12.0
50 & above	3.0	15.0

Average Permeability Millidarcys	-	29.2
Average Percent Porosity	-	16.2
Average Percent Oil Saturation	-	24.5
Average Percent Water Saturation	-	51.5
Average Oil Content, Bbls./A. Ft.	-	308.
Total Oil Content, Bbls./Acre	-	4,626.
Average Percent Oil Recovery by Laboratory Flooding Tests	-	
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	-	
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	-	
Total Calculated Oil Recovery, Bbls./Acre	-	
Packer Setting, Feet	-	
Viscosity, Centipoises @	-	
A. P. I. Gravity, degrees @ 60 °F	-	
Elevation, Feet	-	

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LOGCompany Nicholas Sage Lease D. W. Hughes Well No. Sage #3Depth Interval, Description
Feet

667.0 - 668.0 - Light brown and gray micaceous shaley sandstone.
668.0 - 670.0 - Core not received.
670.0 - 671.0 - Light brown and gray micaceous shaley sandstone.
671.0 - 673.0 - Core not received.
673.0 - 674.0 - Light brown and gray calcareous micaceous sandstone.
674.0 - 676.0 - Core not received.
676.0 - 677.0 - Light slightly shaley micaceous sandstone.
677.0 - 679.0 - Core not received.
679.0 - 680.0 - Light brown slightly shaley micaceous sandstone.
680.0 - 682.0 - Core not received.
682.0 - 683.0 - Light brown and gray micaceous shaley sandstone.
683.0 - 685.0 - Core not received.
685.0 - 686.0 - Light brown and gray micaceous shaley sandstone.
686.0 - 688.0 - Core not received.
688.0 - 689.0 - Light brown and gray calcareous micaceous sandstone.
689.0 - 691.0 - Core not received.
691.0 - 692.0 - Brown slightly shaley micaceous sandstone.
692.0 - 694.0 - Core not received.
694.0 - 695.0 - Brown and gray slightly shaley micaceous sandstone.
695.0 - 697.0 - Core not received.
697.0 - 698.0 - Brown slightly shaley micaceous sandstone.
698.0 - 700.0 - Core not received.
700.0 - 701.0 - Brown and gray laminated micaceous shaley sandstone.
701.0 - 703.0 - Core not received.
703.0 - 704.0 - Grayish brown micaceous sandstone.

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704.0 - 706.0 - Core not received.

706.0 - 707.0 - Grayish brown micaceous sandstone.

707.0 - 709.0 - Core not received.

709.0 - 710.0 - Grayish brown micaceous sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Nicholas Sage Lease D. W. Hughes Well No. Sage #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			Ft.	Cum. Ft.		
1	677.5	16.9	17	50	223	3.8	1.0	1.0	223	3.80
2	670.5	16.1	26	50	325	25.0	1.0	2.0	325	25.00
3	673.5	14.7	19	51	217	2.4	1.0	3.0	217	2.40
4	676.5	14.2	25	51	276	27.0	1.0	4.0	276	27.00
5	679.5	14.1	20	56	219	11.0	1.0	5.0	219	11.00
6	682.5	15.2	27	64	319	2.7	1.0	6.0	319	2.70
7	685.5	16.4	28	50	357	12.0	1.0	7.0	357	12.00
8	688.5	12.9	26	57	260	5.8	1.0	8.0	260	5.80
9	691.5	15.6	34	42	412	112.0	1.0	9.0	412	112.00
10	694.5	16.2	24	52	302	17.0	1.0	10.0	302	17.00
11	697.5	18.4	25	46	357	49.0	1.0	11.0	357	49.00
12	700.5	18.1	24	52	337	18.0	1.0	12.0	337	18.00
13	703.5	17.5	21	55	285	53.0	1.0	13.0	285	53.00
14	706.5	16.5	25	53	320	46.0	1.0	14.0	320	46.00
15	709.5	19.9	27	45	417	54.0	1.0	15.0	417	54.00
							Total		4,626	

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Nicholas Sage Lease D. W. Hughes Well No. Sage #3

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
667.0 - 689.0	8.0	11.2	89.70	667.0 - 689.0	8.0	11.2	89.70	15.1	23.5	53.6	275	2,196
691.0 - 710.0	7.0	49.9	349.00	691.0 - 710.0	7.0	49.9	349.00	17.5	25.7	49.4	347	2,430
667.0 - 710.0	15.0	29.2	438.70	667.0 - 710.0	15.0	29.2	438.70	16.2	24.5	51.5	308	4,626