

# OILFIELD RESEARCH LABORATORIES

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

October 22, 1979

Mid-States Energy Corporation  
P.O. Box 371  
Paola, Kansas 66071

Gentlemen:


Enclosed herewith are the results of tests run on the rotary core taken from the Caylor South Lease, Well No. 3, Franklin County, Kansas, and submitted to our laboratory on October 11, 1979.

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

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

  
Benjamin R. Pearman

SAM/tem  
4 c to Paola, Kansas

- REGISTERED ENGINEERS -

CORE ANALYSIS - WATER ANALYSIS - REPRESSURING ENGINEERING - SURVEYING & MAPPING - PROPERTY EVALUATION & OPERATION

# Oilfield Research Laboratories

## GENERAL INFORMATION & SUMMARY

Company Mid-States Energy Corp. Lease Caylor South Well No. 3

Location NE - SE - NW - SE

Section 33 Twp. 17S Rge. 21E County Franklin State Kansas

Name of Sand - - - - - Upper Squirrel  
 Top of Core - - - - - 641.0  
 Bottom of Core - - - - - 661.4  
 Top of Sand - - - - - 641.0  
 Bottom of Sand - - - - - 652.0  
 Total Feet of Permeable Sand - - - - - 10.3  
 Total Feet of Floodable Sand - - - - -

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 10	3.5	3.5
10 - 20	1.0	4.5
20 - 30	4.2	8.7
30 - 40	1.6	10.3

Average Permeability Millidarcys - - - - - 19.5  
 Average Percent Porosity - - - - - 19.6  
 Average Percent Oil Saturation - - - - - 42.3  
 Average Percent Water Saturation - - - - - 32.2  
 Average Oil Content, Bbls./A. Ft. - - - - - 656.  
 Total Oil Content, Bbls./Acre - - - - - 6,764.  
 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 - - - - -

## OILFIELD RESEARCH LABORATORIES

## LOG

Name Mid-States Energy Corp. Lease Caylor South Well No. 3Depth Interval,  
FeetDescription

641.0 - 641.6

Brown shaly sandstone.

641.6 - 643.2

Brown sandstone.

643.2 - 643.6

Gray calcareous sandstone.

643.6 - 646.6

Brown laminated shaly sandstone.

646.6 - 648.5

Brown laminated slightly shaly sandstone.

648.5 - 648.8

Gray calcareous sandstone.

648.8 - 652.0

Brown and gray laminated sandstone and shale, 60% sandstone.

652.0 - 661.4

Gray sandy shale.

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Mid-States Energy Corp.

Lease Caylor South

Well No. 3

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbbs. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water	Total			Ft.	Cum. Ft.		
1	641.5	17.2	44	59	83	587	3.1	0.6	0.6	352	1.86
2	642.3	20.4	44	25	69	696	36.	1.6	2.2	1,113	57.60
3	643.7	18.5	41	33	74	588	9.2	0.4	2.6	235	3.68
4	644.3	19.2	41	36	77	611	6.1	1.0	3.6	611	6.10
5	645.7	18.5	42	36	78	603	8.7	1.0	4.6	603	8.70
6	646.7	19.2	40	35	75	596	27.	0.6	5.2	358	16.20
7	647.5	20.9	45	25	70	730	22.	1.4	6.6	1,022	30.80
8	648.4	18.2	42	36	78	593	6.9	0.5	7.1	297	3.45
9	649.6	20.1	43	32	75	671	24.	1.2	8.3	939	33.60
10	650.7	19.4	37	37	74	557	22.	1.0	9.3	557	22.00
11	651.6	20.3	43	34	77	677	17.	1.0	10.3	677	17.00

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## SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Mid-States Energy Corp. Lease Caylor South Well No. 3

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
641.0 - 652.0	10.3	19.5	200.99

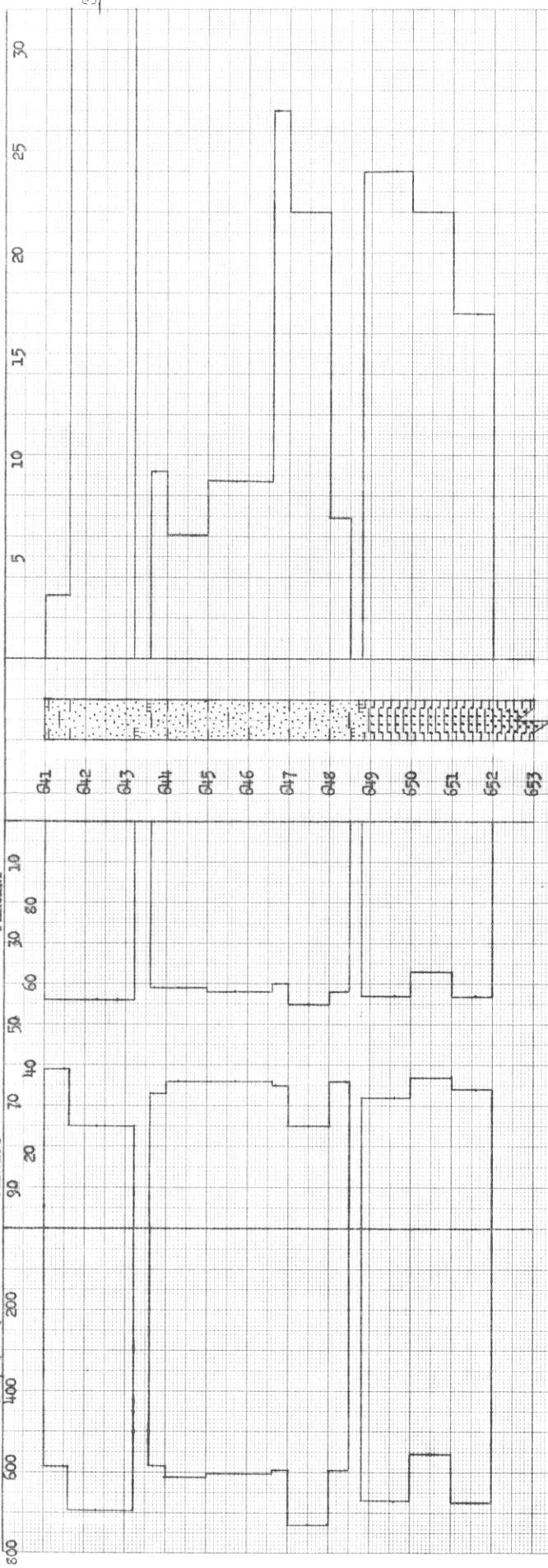
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
641.0 - 652.0	10.3	19.6	42.3	32.2	656	6,764

OIL CONTENT,  
BBL./A. FT.

WATER SAT.,  
PERCENT

OIL SAT.,  
PERCENT

AIR PERMEABILITY, IN MILLIDARYS



KEY:

SLATY SANDSTONE

LAMINATED SANDSTONE AND SHALE

CALCAREOUS SANDSTONE

SANDSTONE

SANDY SHALE

# MID-STATES ENERGY CORPORATION

CAYLOR SOUTH LEASE

FRANKLIN COUNTY, KANSAS

WELL NO. 3

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVG. OIL CONTENT BBL./A. FT.	TOTAL OIL CONTENT BBL./ACRE	AVG. AIR PERMEABILITY, MILLIDARYS
641.0 - 652.0	10.3	19.6	42.3	32.2	656	6,764	19.5

OILFIELD RESEARCH LABORATORIES  
OKLAHOMA CITY, OKLAHOMA  
OCTOBER, 1979 JR