



OILFIELD RESEARCH LABORATORIES

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December 8, 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. 10, Franklin County, Kansas and submitted to our laboratory on November 30, 1979.

The core was sampled by a representative of Oilfield Research Laboratories.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Benjamin R. Pearman
Benjamin R. Pearman

BRP/tem
5 c to Paola, Kansas

- REGISTERED ENGINEERS -

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

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GENERAL INFORMATION & SUMMARY

Company Mid-States Energy Corporation Lease Caylor South Well No. 10

Location SW SW NE SE

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

Name of Sand	- - - - -	Squirrel
Top of Core	- - - - -	538.0
Bottom of Core	- - - - -	555.3
Top of Sand	- - - - -	538.0
Bottom of Sand	- - - - -	554.6
Total Feet of Permeable Sand	- - - - -	11.1
Total Feet of Floodable Sand	- - - - -	

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 5	6.7	6.7
5 - 10	1.5	8.2
10 - 15	2.0	10.2
15 & Above	0.9	11.1

Average Permeability Millidarcys	- - - - -	6.6
Average Percent Porosity	- - - - -	18.0
Average Percent Oil Saturation	- - - - -	56.2
Average Percent Water Saturation	- - - - -	36.0
Average Oil Content, Bbls./A. Ft.	- - - - -	792.
Total Oil Content, Bbls./Acre	- - - - -	8,786.
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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LOGName Mid States Energy Corporation Lease Caylor South Well No. 10

<u>Depth Interval, Feet</u>	<u>Description</u>
538.0 - 538.5	Light brown very shaly sandstone.
538.5 - 542.0	Gray sandy shale.
542.0 - 542.5	Brown and gray laminated sandstone and shale.
542.5 - 543.1	Gray sandy shale.
543.1 - 549.5	Brown and gray laminated sandstone and shale.
549.5 - 550.9	Gray sandy shale containing a vertical fracture.
550.9 - 554.6	Brown and gray laminated sandstone and shale.
554.6 - 555.3	Gray sandy shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Mid-States Energy Corporation Lease Caylor South Well No. 10

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	538.2	15.0	23	70	93	268	0.15	0.5	0.5	134	0.07
2	542.2	19.1	48	35	83	711	3.5	0.5	1.0	356	1.75
3	543.3	19.5	41	36	77	620	24.	0.9	1.9	558	21.60
4	544.5	19.5	55	30	85	832	14.	1.0	2.9	832	14.00
5	545.5	18.7	76	19	95	1103	11.	1.0	3.9	1103	11.00
6	546.5	17.2	56	39	95	747	0.52	1.0	4.9	747	0.52
7	547.5	17.4	56	42	98	756	4.4	1.0	5.9	756	4.40
8	548.6	19.2	69	27	96	1028	3.8	1.0	6.9	1028	3.80
9	549.4	18.7	68	29	97	987	3.0	0.5	7.4	494	2.50
10	551.3	16.5	65	33	98	832	1.7	1.0	8.4	832	1.70
11	552.4	18.0	55	41	96	768	3.9	1.0	9.4	768	3.90
12	553.5	18.3	62	30	92	880	6.3	1.0	10.4	880	6.30
13	554.5	16.1	34	56	90	425	2.1	0.7	11.1	298	1.47

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		Lease		Well No.	
Mid-States Energy Corporation		Caylor South		10	
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
538.0 - 554.6	11.1	6.6	73.01		
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
538.0 - 554.6	11.1	18.0	56.2	792	8,786