



OILFIELD RESEARCH LABORATORIES

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

December 5, 1980

Mid-States Petroleum Corporation
P. O. Box 402
Paola, Kansas 66071

Gentlemen:

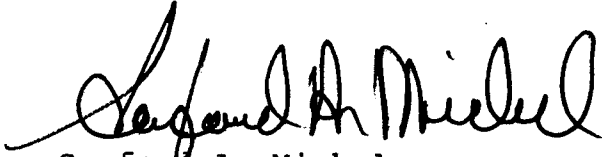
Enclosed herewith are the results of tests run on the rotary cores taken from the Paulson Lease, Well No. 2, located in Miami County, Kansas.

The cores were sampled and sealed in plastic bags by a representative of the client and submitted to our laboratory on November 21, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES



Sanford A. Michel

SAM/kas

5 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 Petroleum Corp. Lease Paulson Well No. 2
 Location -
 Section 31 Twp. 16S Rge. 24E County Miami State Kansas

Elevation, Feet	-		
Name of Sand		Peru	Cattleman
Top of Core		313.0	590.0
Bottom of Core		336.5	604.6
Top of Sand		313.0	590.7
Bottom of Sand		333.4	601.8
Total Feet of Permeable Sand		17.3	9.9

Distribution of Permeable Sand:
Permeability Range
Millidarcys

	<u>Feet</u>	<u>Cum. Ft.</u>
	<u>PERU SAND</u>	
0 - 100	4.9	4.9
100 - 500	4.0	8.9
500 - 1000	6.0	14.9
1000 & Above	2.4	17.3
	<u>CATTLEMAN SAND</u>	
100 - 150	3.3	3.3
150 - 200	5.8	9.1
200 & Above	0.8	9.9

Average Permeability Millidarcys	549.1	161.4
Average Percent Porosity	20.5	24.1
Average Percent Oil Saturation	15.7	58.4
Average Percent Water Saturation	49.5	12.8
Average Oil Content, Bbls./A. Ft.	245.	1,091.
Total Oil Content, Bbls./Acre	4,458.	10,801.

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LOGName Mid-States Petroleum Corp. Lease Paulson Well No. 2

<u>Depth Interval, Feet</u>	<u>Description</u>
	<u>PERU SAND</u>
313.0 - 317.1	Grayish light brown calcareous sandstone.
317.1 - 318.0	Grayish light brown very calcareous sandstone.
318.0 - 319.3	Hard gray limestone.
319.3 - 320.1	Grayish light brown very calcareous sandstone.
320.1 - 328.6	Grayish light brown slightly calcareous sandstone.
328.6 - 329.5	Gray sandy shale.
329.5 - 333.4	Grayish light brown slightly calcareous sandstone.
333.4 - 334.8	Hard gray limestone.
334.8 - 336.5	Gray sandy shale.
	<u>CATTLEMAN SAND</u>
590.0 - 590.7	Gray sandy shale.
590.7 - 592.5	Dark brown slightly calcareous sandstone.
592.5 - 593.7	Gray sandy shale.
593.7 - 595.0	Dark brown slightly calcareous sandstone.
595.0 - 597.3	Brown and gray laminated slightly calcareous sandstone and shale.
597.3 - 601.8	Dark brown slightly calcareous sandstone.
601.8 - 604.6	Gray sandy shale.

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Mid-States Petroleum Corp.

Lease

Paulson

Well No. 2

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			Ft.	Cum. Ft.		
1	313.5	22.0	17	41	290	203.	1.0	1.0	290	203.00
2	314.5	18.2	19	47	268	52.	1.0	2.0	268	52.00
3	315.5	19.2	12	64	179	153.	1.0	3.0	179	153.00
4	316.5	19.5	20	55	303	92.	1.1	4.1	333	101.20
5	317.5	20.0	12	53	186	Imp.	0.9	5.0	167	0.00
6	319.6	20.3	17	54	268	0.80	0.8	5.8	214	0.64
7	320.5	23.4	6	59	109	1223.	1.0	6.8	109	1223.00
8	321.5	23.6	8	63	147	804.	1.0	7.8	147	804.00
9	322.4	21.9	21	43	357	899.	1.0	8.8	357	899.00
10	323.5	27.9	7	59	152	829.	1.0	9.8	152	829.00
11	324.5	27.5	19	46	405	1179.	1.0	10.8	405	1179.00
12	325.5	17.6	12	51	164	989.	1.0	11.8	164	989.00
13	326.6	20.5	11	55	175	296.	1.0	12.8	175	296.00
14	327.5	18.5	23	41	330	288.	1.0	13.8	330	288.00
15	328.5	16.7	16	46	207	42.	0.5	14.3	104	21.00
16	329.7	14.7	10	89	114	43.	0.5	14.8	57	21.50
17	330.5	13.4	18	27	187	86.	1.0	15.8	187	86.00
18	331.5	19.1	22	49	326	637.	1.0	16.8	326	637.00
19	332.5	21.7	21	27	354	926.	1.0	17.8	354	926.00
20	333.2	18.8	24	27	350	1978.	0.4	18.2	140	791.20
21	591.5	24.8	55	22	1058	<u>CATTLEMAN SAND</u> 167.	1.0	1.0	1058	167.00
22	592.4	24.4	53	18	1003	203.	0.8	1.8	802	162.40
23	594.5	22.9	54	14	959	103.	1.3	3.1	1247	133.90
24	595.5	21.8	58	11	981	118.	1.0	4.1	981	118.00
25	596.5	24.6	63	6	1202	188.	1.3	5.4	1563	244.40
26	597.5	25.8	60	15	1201	195.	1.0	6.4	1201	195.00
27	598.5	24.9	66	6	1275	137.	1.0	7.4	1275	137.00
28	599.5	23.7	57	13	1048	169.	1.0	8.4	1048	169.00
29	600.6	24.1	60	12	1122	181.	1.0	9.4	1122	181.00
30	601.6	23.6	55	15	1007	181.	0.5	9.9	504	90.50

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease	Paulson	Well No.	2		
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.			
<u>PERU SAND</u>						
313.0 - 333.4	17.3	549.1	9,499.54			
<u>CATTLEMAN SAND</u>						
590.7 - 601.8	9.9	161.4	1,598.20			
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
<u>PERU SAND</u>						
313.0 - 333.4	18.2	20.5	15.7	49.5	245	4,458
<u>CATTLEMAN SAND</u>						
590.7 - 601.8	9.9	24.1	58.4	12.8	1,091	10,801