Kansas Cores
PETROLEUM RESERVOIR ENGINEERING
CORE ANALYSIS
1026 NORTH LIGHTNER
WICHITA, KANSAS 67208

Apr. 11, 1965

Re: CORE ANALYSIS REPORT
Mull Drlg. & Walters Drlg.
Ziegler #3
Kiowa County, Kansas

Mull Drilling Co.
Wichita Plaza Bldg.
Wichita, Kansas

Gentlemen:

The cores from your well, Ziegler #3, Kiowa County, Kansas have been analysed for permeability, porosity, and residual saturation of oil and water. The data will be found tabulated on the following pages and indicated on the coregraph. The data averages and recovery figures will be found at the end of this report.

The following is a short discussion of the section cored and analysed.

4870' to 4886' - Oil Productive

This section in the Mississippian formation was composed of a light grey crystalline dolomitic limestone for the top 6' with fairly low permeabilities and porosities and a soft brown dolomite in the lower 10' with good permeabilities and porosities. Good oil saturation was measured throughout, along with very low water percentages. Good, commercial production can be expected here.

4900' to 4903' - Oil Productive

This hard brown dolomite appeared to be the top of another zone, and had good oil saturation but was fairly tight. The water percentages were well in line for oil production. The zone was very noticeably fractured throughout. The oil produced from this zone will supplement that from above.

Yours very truly,

KANSAS CORES

Ivan L. Stuber

Attachments
cc: 8 copies to Mull Drlg. Co., Wichita, Kansas
1 copy to KANSAS CORES, Wichita, Kansas

Kansas Cores

PETROLEUM RESERVOIR ENGINEERING
WICHITA, KANSAS 67208

WELL Ziegler #3 COUNTY Kiowa STATE Kansas

COMPANY Mull Drlg. & Walters Drlg. DATE 4-11-65 FILE No. S-597

FIELD TYPE CORES Diamond ANALYST IS

ANALYSIS DATA AND INTERPRETATIONS

SAMPLE No.	DEPTH	PERMEABILITY MILLIDARCYS HORIZONTAL	PERMEABILITY MILLIDARCYS VERTICAL	POROSITY %	SATURATION WATER % PORE SPACE	SATURATION OIL % PORE SPACE	PROBABLE PRODUCTION	REMARKS
1	4869-70	~~0.0~~	~~0.0~~	~~7.5~~	~~36.1~~	~~12.5~~	~~No Perm~~	N.G.
2	4870-71	7.9	5.7	11.9	39.2	16.6	Oil	
3	4871-72	25.1	23.9	12.9	28.2	15.2	Oil	4890 2311 2559
4	4872-73	8.7	6.5	12.0	38.6	12.2	Oil	
5	4873-74	11.6	8.1	13.2	35.1	14.3	Oil	4903
6	4874-75	5.0	4.7	11.6	34.0	17.1	Oil	
7	4875-76	14.8	9.3	12.2	36.0	16.1	Oil	
8	4876-77	26.0	14.3	14.6	21.5	11.7	Oil	T 6' L. Pay
9	4877-78	62.5	38.1	18.5	20.2	12.6	Oil	
10	4878-79	78.9	44.0	18.6	27.5	18.7	Oil	
11	4879-80	650	310	26.3	20.0	12.2	Oil	4903 2311 2592 2559 33'
12	4880-81	65.7	32.9	17.6	23.2	19.1	Oil	
13	4881-82	54.1	40.2	17.5	20.6	17.9	Oil	
14	4882-83	450	300	23.7	22.2	17.6	Oil	
15	4883-84	230	92.1	22.4	24.8	18.8	Oil	Vertical fractures
16	4884-85	77.8	30.6	20.0	26.0	16.4	Oil	Vertical fractures
17	4885-86	24.4	12.0	20.0	28.1	14.9	Oil	Vertical fractures
18	4891-92	~~0.0~~	~~0.0~~	~~11.9~~	~~36.9~~	~~11.6~~	~~No Perm~~	Vertical fractures
19	4892-93	~~0.0~~	~~0.0~~	~~10.2~~	~~40.2~~	~~15.0~~	~~No Perm~~	Vertical fractures
20	4899-4900	~~0.0~~	~~0.0~~	~~10.9~~	~~37.8~~	~~10.2~~	~~No Perm~~	Vertical fractures
21	4900-01	5.2	2.8	12.0	31.6	11.6	Oil	Vertical fractures
22	4901-02	25.6	7.1	14.7	30.5	18.8	Oil	L. Pay 3' Vertical fractures
23	4902-03	20.5	2.9	13.8	39.4	21.4	Oil	Vertical fractures
24	4903-04	~~0.0~~	~~0.0~~	~~11.7~~	~~48.4~~	~~0.0~~	~~No Perm~~	Vertical fractures
25	4904-05	~~0.0~~	~~0.0~~	~~12.6~~	~~57.2~~	~~0.0~~	~~No Perm~~	Vertical fractures
26	4905-06	~~0.0~~	~~0.0~~	~~9.1~~	~~61.0~~	~~0.0~~	~~No Perm~~	Vertical fractures
Total (19)		1843.8		313.5	546.7	303.2		

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WICHITA, KANSAS

DATA AVERAGES AND OIL RECOVERY FIGURES

DEPTH	4870'-4886'	4900'-4903'		
FEET OF PRODUCTION FORMATION OF SECTION ANALYZED	16	3		
AVERAGE PERMEABILITY IN MILLIDARCYS	112	17.1		
AVERAGE POROSITY. PER CENT	17.1	13.5		
AVERAGE TOTAL WATER % OF PORE SPACE	29.7	33.8		
AVERAGE RESIDUAL OIL % OF PORE SPACE	15.7	17.3		
AVERAGE CONNATE WATER CALCULATED % OF PORE SPACE	23.8	27.0		
ESTIMATED FORMATION VOLUME FACTOR — USED IN CALCULATING RECOVERABLE OIL	1.30	1.30		
PRODUCTIVE CAPACITY — PRODUCTIVE FEET X AVERAGE PERMEABILITY IN MILLIDARCYS	1,793	51.3		
RECOVERABLE OIL BY WATER DRIVE — BBLS. PER ACRE FOOT	571	406		
RECOVERABLE OIL BY GAS EXPANSION — BBLS. PER ACRE FOOT	343*	244*		

*From original bottom hole pressure to zero

Re: CORE DESCRIPTION
Mull Drlg. & Walters Drlg.
Ziegler #3
Kiowa County, Kansas

CORE #1

4863' to 4906' Cut 43' Rec. 43'

6' Hard coarsely crystalline white to light grey limestone with numerous stylolytes: No show
69

8' Soft slightly fossiliferous light brown finely crystalline dolomitic limestone: Good stain and odor

2' Soft finely crystalline brown fossiliferous dolomite, some clear quartz inclusions: Good stain and odor
79

1' Dark brown soft sucrosic dolomite: Good stain and odor
80

2' Hard brown glauconitic finely crystalline dolomite: Good stain and odor

1' Dark brown finely crystalline to sucrosic dolomite: Good stain and odor

3' Hard dirty grey-black vugular dolomite with some dense green dolomite and glauconite inclusions and streaks: Good stain and odor, vertically fractured
86

5' Hard dense to slightly chalky light grey-green dolomite, some dark green shale in streaks: No show
91

2' Hard grey-brown glauconitic and slightly dolomitic limestone, vertically fractured: Fair streaked stain
93

6' Hard dense green dolomite, some quartz streaks: No show
99

4' Hard brown glauconitic very finely crystalline dolomite: Good stain and odor, vertically fractured
06

3' Hard grey crystalline limestone, vertically fractured with some oil in fractures: No show except in fractures
4906