

Kansas Cores

PETROLEUM RESERVOIR ENGINEERING

CORE ANALYSIS

Oct. 20, 1962

1026 NORTH LIGHTNER
WICHITA, KANSAS

Re: CORE ANALYSIS REPORT

Walters Drilling Co.

Tilley #2

Neos County, Kansas

Walters Drilling Co.
510 Orpheum Bldg.
Wichita, Kansas

Gentlemen:

The cores from your well, Tilley #2, Neos 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.

4345' to 4347' - Oil Productive

This section in the Ft. Scott limestone was composed of a very regular and porous light grey limestone. The permeabilities are good, and the porosities are very high. The water percentages are very low, which, along with the high porosities make the reserves for this section so extraordinarily high. This zone will be a good supplement to that below.

4442' to 4460' - Oil Productive

The upper 7' of this Mississippian was composed of a poorly developed and streaked dolomite and chert. The dolomite had good oil percentages and porosities, but only 2' had any permeability. The lower 5' had a more fairly even character, though still somewhat streaked. The water and oil percentages are in line for oil production, however, and a commercial well can be expected.

Yours very truly,

KANSAS CORES

Ivan L. Stuber
Ivan L. Stuber

Attachments

cc: 5 copies to Walters Drlg. Co., Wichita, Kansas
1 copy to KANSAS CORES, Wichita, Kansas

Re: CORE DESCRIPTION
Walters Drilling Co.
Tilley #2
Wess County, Kansas

CORE #1

4340' to 4352'	Gut 12'	Rec. 12'
3'	Black shale	
1'	Hard grey limestone with trace hairline fractures: Trace oil in fractures	
1'	Hard grey finely crystalline cherty limestone with some grey chert with spotted stain, fair odor	
2'	Soft light brown very vugular limestone: Good stain and odor	
2'	Hard grey limestone, trace fractures, trace bleeding	
3'	Black shale	

CORE #2

4423' to 4434'	Gut 11'	Rec. 11'
1'	Hard white to grey chert, trace shale, trace black dolomite: Very slight stain and odor in part	
10'	Hard white to grey chert, some vertical bedding with trace dolomite and shale along bedding: Very slight bleeding in part	

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 WICHITA, KANSAS

WELL Tilley #2 COUNTY Neosho STATE Kansas
 COMPANY Walters Drilling DATE 10-20-62 FILE NO. 6-515
 FIELD _____ TYPE CORES Diamond ANALYST IS

ANALYSIS DATA AND INTERPRETATIONS

SAMPLE NO.	DEPTH	PERMEABILITY MILLIDARCYs		POROSITY %	SATURATION WATER % PORE SPACE	SATURATION OIL % PORE SPACE	PROBABLE PRODUCTION	REMARKS
		HORIZONTAL	VERTICAL					
43 44		0.0	0.0	7.9	41.8	4.9	No Perm	
44 45		28.2	8.9	24.3	15.3	12.7	Oil	
45 46		86.5	65.2	23.9	21.2	14.4	Oil	
46 47								
4448		0.0	0.0	13.4	45.7	18.4	No Perm	
49								
4449		0.0	0.0	13.8	32.2	23.2	No Perm	
50								
4450		28.6	24.7	18.6	37.2	22.4	Oil	
51								
4451		0.0	0.0	12.0	33.3	29.0	No Perm	
52								
4452		34.6	20.4	21.8	21.6	12.3	Oil	
53								
4455		40.3	22.1	14.7	36.0	24.5	Oil	
56								
4456		125	110	21.2	46.4	22.7	Oil	
57								
4457		5.1	2.6	19.0	56.8	14.3	Oil	
58								
4458		290	290	20.6	32.0	20.2	Oil	
59								
4459		305	310	25.4	34.5	16.8	Oil	
60								

PETROLEUM RESERVOIR ENGINEERING
WICHITA, KANSAS

DATA AVERAGES AND OIL RECOVERY FIGURES

DEPTH	4344'-4347'	4448'-4460'		
FEET OF PRODUCTION FORMATION OF SECTION ANALYZED	2	7		
AVERAGE PERMEABILITY IN MILLIDARCYS	57.4	118		
AVERAGE POROSITY, PER CENT	24.1	20.2		
AVERAGE TOTAL WATER % OF PORE SPACE	18.3	37.8		
AVERAGE RESIDUAL OIL % OF PORE SPACE	13.6	19.0		
AVERAGE CONNATE WATER CALCULATED % OF PORE SPACE	14.6	30.2		
ESTIMATED FORMATION VOLUME FACTOR - USED IN CALCULATING RECOVERABLE OIL	1.24	1.18		
PRODUCTIVE CAPACITY - PRODUCTIVE FEET X AVERAGE PERMEABILITY IN MILLIDARCYS	115	829		
RECOVERABLE OIL BY WATER DRIVE - BBLs. PER ACRE FOOT	1,032	628		
RECOVERABLE OIL BY GAS EXPANSION - BBLs. PER ACRE FOOT	619*	377*		

*From original bottom hole pressure to zero

CORE #3

4436' to 4451'

Cut 15'

Rec. 15'

- 4438' 2' Conglomeritic black shale
- 4442' 4' Black shale with trace conglomerite
- 4443' 1' Hard grey shaley limestone
- 4446' 3' Dirty rotten limey shale
- 4448' 2' Hard dense grey dolomite. No stain or odor
- 4448 1/2' 2' Hard fossiliferous dolomite with white chert and green shale: Good slightly streaked stain, good odor
- 4449' 1' Soft brown slightly cherty dolomite: Good stain and odor

CORE #4

4451' to 4461'

Cut 10'

Rec. 10'

- 1' Very hard cherty dolomite & chert: Good stain, bleeding
- 1' Soft brown vugular dolomite with streaks cherty dolomite: Good stain and odor
- 2' Hard green chert with trace dolomite, some large chert nodules: Trace spotted stain in dolomite
- 2' Soft brown dolomite: Good stain and odor
- 2' Dark brown dolomite, slightly cherty in part: Good stain
- 1' Soft dark brown dolomite: Good stain and odor
- 1' Green shale, trace dolomite streaks bottom: Trace stain bottom

Kansas Cores

PETROLEUM RESERVOIR ENGINEERING

WICHITA, KANSAS

COMPANY Walters Drilling

DATE 10-20-62

WELL Tilley #2

ANALYST IS

FIELD _____

COUNTY Now

STATE Kansas

The analyses and interpretations are based on material brought to Kansas Cores by the client, and such data and interpretations are accessible only to that company which the client represents. Kansas Cores makes no warranty and makes no guarantee for the interpretations and opinions of the data. Our opinions of an analysis are placed at the discretion of the operator.

PERMEABILITY MILLIDARCYs $\bigcirc$ — $\bigcirc$

400 300 200 100 0

POROSITY—% $\times$ — $\times$

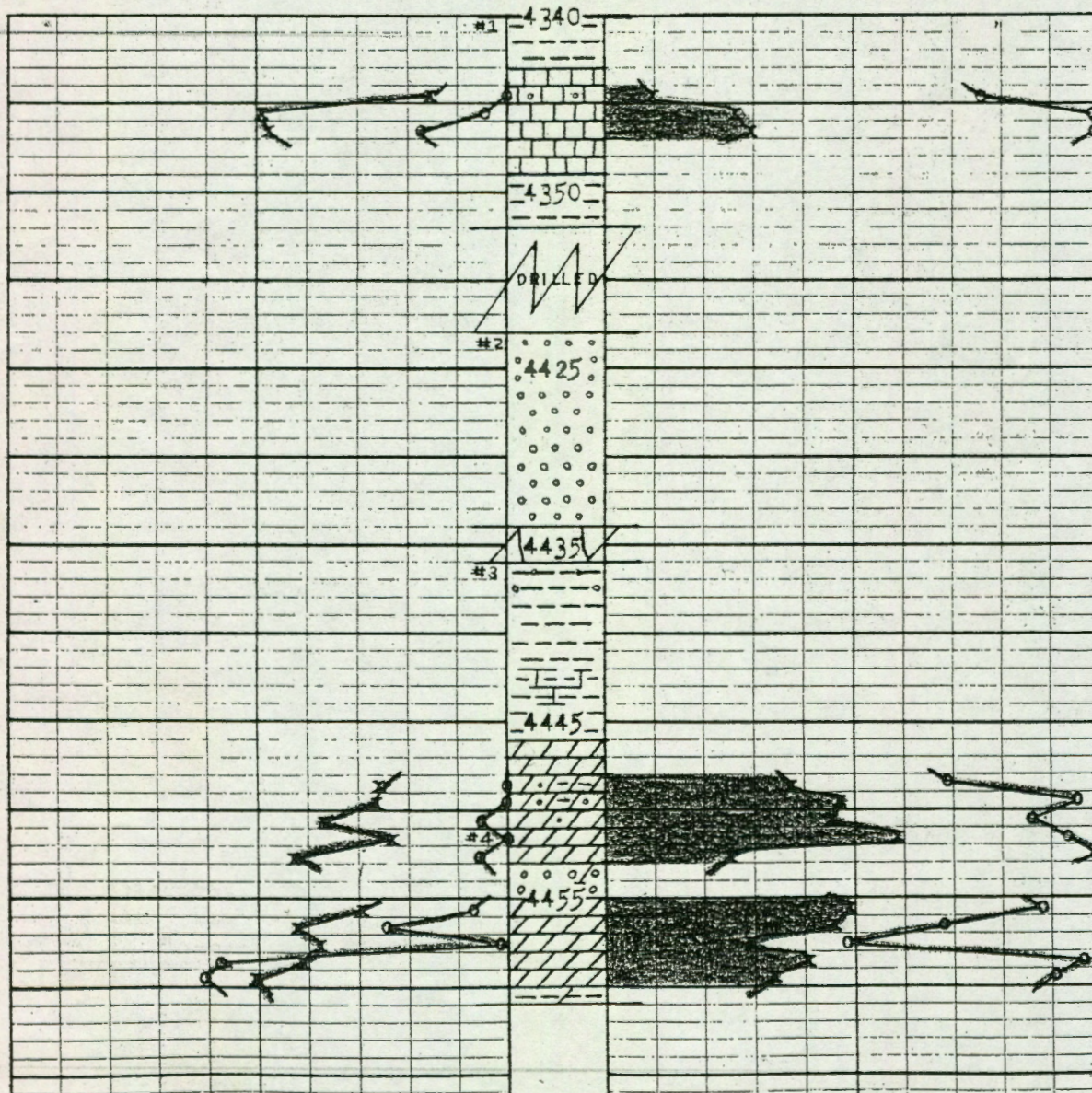
20 10 0

CONNATE WATER % SATURATION

0 70 60 50 40 $\bigcirc$ — $\bigcirc$

OIL % PORE SATURATION $\times$ — $\times$

0 10 20



WALTERS DRLG - TILLEY NO. 2

SEC 8

T17S

R24W

235

NESS

CO

KANSAS

DES MOINES CHEROKEE - MERAMEC SPERGEN

4443

4446

4449

4452

4455

4458

