

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

January 4, 1951

The Shallow Water Refining Company
114 West Pine
Garden City, Kansas

Attention: Mr. Maurice L. Brown

Subject: Core Analysis
Gobleman A-8 Well
Nunn Field
Finney County, Kansas

Gentlemen:

Cores taken in the Gobleman A-8 well were quick-frozen to preserve the fluid contents and shipped to Oklahoma City for analysis. The data obtained from this analysis are presented in tabular and graphical form on the accompanying Coregraph.

Marmaton

Between 4300.0 and 4309.5 feet, nine samples were selected from the Marmaton section. Five of the samples had measurable permeability, one sample containing 99 per cent of the total capacity measured. The section analyzed has fair porosity, but has low oil content. It is anticipated that production will be obtained from the interval after acidizing, but the zone has limited thickness and limited reserves. When the acidizing procedure is used, undoubtedly the majority of the acid will be expended through the high permeability lens, but this will open a pipe line and permit production of oil to the well bore from the tighter formation. Reserve estimates are prepared for the section, assuming that the average reservoir fluid characteristics given are applicable to the oil produced. In making reserve estimates it is further assumed that production will be economic until pressure in the reservoir reaches atmospheric pressure before production is discontinued. It is again pointed out that the oil contents are low and it is possible that high ratio production will result.

Mississippian Lime

Definitely oil productive Mississippian lime is present between 4638 and 4640 feet, the interval sampled. This section is characterized by low porosity, but fair permeability. If these two feet are the extent of the oil productive column, then reserves are quite limited, but oil production should be obtained after acidizing. Reserve estimates are prepared on this section with the same limitations as noted above in the matter of pressure decline.

Lower Mississippian Lime

Three feet of oil productive limestone were sampled between 4713 and 4716 feet. This section has low permeability and will respond to acid treatment less effectively than the overlying interval. Reserves of this section are even lower than those given before, but are given at the bottom of the summary on page one. It is assumed that after acidizing this interval will be capable of producing some oil, although the amount will be entirely dependent upon the effectiveness of the acid treatment.

We are pleased to have been of service.

Very truly yours,

Core Laboratories, Inc.

J W B Barbour Jr (PS)

J. W. Barbour, Jr.,
District Engineer

JWB:aa

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS

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 File OCL-523 FC
 Well Gobleman A-8

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

CORE SUMMARY

FORMATION NAME	Marmaton	Mississippian Lime		
DEPTH, FEET	4300.0-4306.0	4638.0-4640.0	4713.0-4716.0	
% CORE RECOVERY	100	100	100	
FEET OF PERMEABLE, PRODUCTIVE FORMATION RECOVERED	5.0	2.0	3.0	
AVERAGE PERMEABILITY MILLIDARCS	38	15	0.7	
CAPACITY — AVERAGE PERMEABILITY X FEET PRODUCTIVE FORMATION	192	30	2.1	
AVERAGE POROSITY, PERCENT	15.5	9.1	6.9	
AVERAGE RESIDUAL OIL SATURA- TION, % PORE SPACE	6.4	25.5	19.3	
GRAVITY OF OIL, °A.P.I.	42	38		
AVERAGE TOTAL WATER SATURA- TION, % PORE SPACE	63.1	26.3	25.5	
AVERAGE CALCULATED CONNATE WATER SATURATION, % PORE SPACE	62	26	25.5	
SOLUTION GAS-OIL RATIO, CUBIC FEET PER BARREL (1)	410	490	490	
FORMATION VOLUME FACTOR—VOL- UME THAT ONE BARREL OF STOCK TANK OIL OCCUPIES IN RESERVOIR (1)	1.26	1.29	1.29	

CALCULATED RECOVERABLE OIL { Prediction dependent upon complete isolation of each division. Structural position of well, total permeable thickness of oil zone and drainage area of well should be considered.

BY NATURAL OR GAS EXPANSION, BBLs. PER ACRE FOOT (2)	101	102	77	
INCREASE DUE TO WATER DRIVE, BBLs. PER ACRE FOOT	184	123	128	
TOTAL AFTER COMPLETE WATER DRIVE, BBLs. PER ACRE FOOT (3)	285	225	205	

Core Laboratories, Inc.

NOTE:

(*) REFER TO ATTACHED LETTER.

(1) REDUCTION IN PRESSURE FROM estimated SATURATION PRESSURE TO ATMOSPHERIC PRESSURE.

(2) AFTER REDUCTION FROM ORIGINAL RESERVOIR PRESSURE TO ZERO POUNDS PER SQUARE INCH.

(3) RESERVOIR PRESSURE MAINTAINED BY WATER DRIVE OR ABOVE estimated ORIGINAL SATURATION PRESSURE.

(4) NO ESTIMATE FOR GAS PHASE RESERVOIRS.

J W Barbour Jr (pg)
 J. W. Barbour, Jr.

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Gobleman 8-A

C/JW - NE 1/4, T. 21S., R. 34W.

Cored in the mountain from 4300' - 4309.5'

2 Boxes

E1. 2948'

Winifred	2502	453
Winifred	2560	395
Townsend	2618	337
FT. Riley	2649	306
B/Flonine	2736	219
W. refund	2793	162
new	2968	-13
Navaho	3048	-93
G. d. vance ?	3086	-131
Pennsylvanian	3220	-265
Talies	3320	-365
Europaria	3559	-404
Topical	3500	-545
Reckner	3751	-796
Lansing - K.C.	3769	-814
Marionston	4251	-1293
Mississippi	4629	-1674
Mississippi Line	4633	-1678
T.D.	4731	



CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

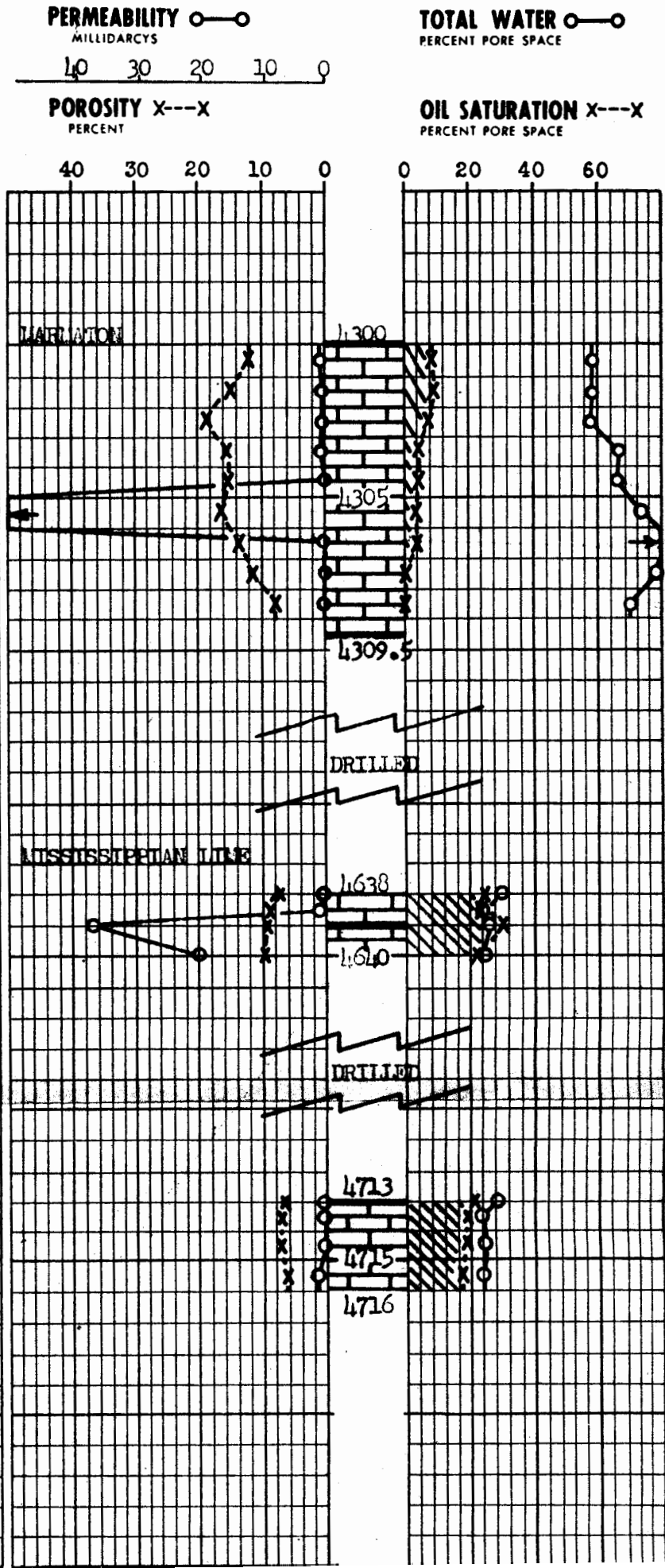
COMPANY THE SHALLOW WATER REFINING CO. DATE 12/27/50 FILE OCL-523 FC
WELL GOBLEMAN A-8 CORES DIAMOND ANALYSTS WILSON
FIELD NUNN FORMATION AS NOTED ELEVATION 2952' DE
COUNTY FENNEY DRIG. FLUID OIL EMULSION LOCATION C SW NE
STATE KANSAS REMARKS SERVICE # 2 & 3 SEC 34-21S-34W

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CORE ANALYSIS AND INTERPRETATION

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCS	POROSITY %	RESIDUAL LIQUID SATURATION % PORE SPACE		PROBABLE PROD.
				OIL	TOTAL WATER	
1	1300.5	0.3	12.1	8.3	58.6	*
2	01.5	0.1	15.3	8.5	58.9	*
3	02.5	0.1	18.3	7.1	57.9	*
4	03.5	0.5	15.7	5.1	66.4	*
5	04.5	0.0	15.3	5.2	65.4	
6	05.5	191	16.3	3.1	73.8	*
7	06.5	0.0	13.6	3.7	86.9	
8	07.5	0.0	11.4	0.0	78.9	
9	08.5	0.0	7.9	0.0	69.7	
10	1638.0	0.2	7.7	21.7	29.9	OIL
12	38.8	37.0	9.6	31.2	28.1	OIL
13	10.0	20	9.9	22.3	25.3	OIL
14	1713.0	0.5	6.6	21.2	28.7	OIL
15	13.5	0.3	7.1	19.7	21.0	OIL
16	11.5	0.4	7.6	18.4	25.0	OIL
17	15.5	1.6	6.2	17.8	24.2	OIL

COMPLETION COREGRAPH



From the Desk of—

W. J. EBANKS, JR.

This Core seems to
be Pennsylvanian,
not Miss. as reported—
check?

June 16, 1983

Attached is a list of the palynomorphs identified from fourteen wells in the Hugoton Embayment area. The enclosed list contains literature identifications of the taxa found in each sample, as requested by the Kansas Geological Survey.

Carol Dawson

Carol Dawson

CD/df

K. C. Sawyer

SHALLOW WATER REFINING
#8-A GOBERLMAN
34-21S-34W
FINNEY COUNTY, KANSAS

SAMPLE
DEPTH SPECIES PRESENT

4627' Lycospora pellucida (W.) S. W. B. 1944
 Schopfipollenites ellipsoides (Ibrahim) Potonié & Kremp 1954
 Convolutispora sp. Hoffmeister, Staplin, Malloy 1955
 Punctatisporites validus Felix & Burbridge 1967

Shallow Water Refn. Co.
8 "A" Gobleman
CSW/4 NE/4 34-21-34W
T. D. - 4730. Flo. - 2952
Drillers Log.

