

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

April 14, 1959

REPLY TO
707 MID-CONTINENT BLDG.
TULSA, OKLAHOMA

R. G. Lawton
Box 620
Magnolia, Arkansas

Attention: Mr. G. R. Brooks

Subject: Core Analysis
Rueb No. 2 Well
Cheyenne County, Kansas

Gentlemen:

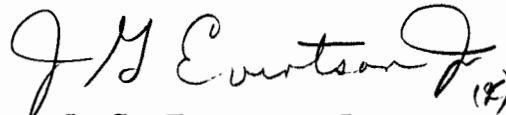
Formation analyzed from 4533 to 4535 feet was found to be nonproductive due to the low permeability.

The interval analyzed from 4547 to 4556 feet is interpreted to be oil productive. A satisfactory completion of the zone is dependent upon the success of treatment of the formation, due to the low permeability measured and upon production methods used because of the low gravity oil. Average core analysis values for the interval are given on page one of the report.

We sincerely appreciate this opportunity to be of service to you.

Very truly yours,

Core Laboratories, Inc.



J. G. Evertson, Jr.,
District Manager

JGE:PE:jw
7 cc. - Addressee
2 cc. - Mr. C. P. Pickett
Sun Oil Company
Wichita, Kansas

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

Page 1 of 1 File CP-7-428 FC
 Well Rueb No. 2

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

FORMATION NAME AND DEPTH INTERVAL: Lansing-Kansas City 4547.0-4556.0

FEET OF CORE RECOVERED FROM ABOVE INTERVAL	9.0	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	19.3
FEET OF CORE INCLUDED IN AVERAGES	9.0	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	(c) 19
AVERAGE PERMEABILITY: MILLIDARCYS	9.9	OIL GRAVITY: °API	(e) 20
PRODUCTIVE CAPACITY: MILLIDARCY-FEET	89	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT	9.8	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE	51.6	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	575

Calculated maximum solution gas drive recovery is _____ barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is _____ barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. *(Please refer to footnotes for further discussion of recovery estimates.)*

FORMATION NAME AND DEPTH INTERVAL:

FEET OF CORE RECOVERED FROM ABOVE INTERVAL		AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	
FEET OF CORE INCLUDED IN AVERAGES		AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	
AVERAGE PERMEABILITY: MILLIDARCYS		OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-FEET		ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT		ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE		CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	

Calculated maximum solution gas drive recovery is _____ barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is _____ barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. *(Please refer to footnotes for further discussion of recovery estimates.)*

(c) Calculated (e) Estimated (m) Measured (*) Refer to attached letter.

These recovery estimates represent theoretical maximum values for solution gas and water drive. They assume that production is started at original reservoir pressure; i.e., no account is taken of production to date or of prior drainage to other areas. The effects of factors tending to reduce actual ultimate recovery, such as economic limits on oil production rates, gas-oil ratios, or water-oil ratios, have not been taken into account. Neither have factors been considered which may result in actual recovery intermediate between solution gas and complete water drive recoveries, such as gas cap expansion, gravity drainage, or partial water drive. Detailed predictions of ultimate oil recovery to specific abandonment conditions may be made in an engineering study in which consideration is given to overall reservoir characteristics and economic factors.

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc., and its officers and employees assume no responsibility and make no warranty or representation as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.



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Petroleum Reservoir Engineering

COMPANY R. G. LAWTON DATE ON 3-30-59 FILE NO. CP-7-428 FC
 WELL RUEB NO. 2 DATE OFF 3-30-59 ENGRS. EVATT
 FIELD UNNAMED FORMATION LANSING-KANSAS CITY ELEV. 3660' KB
 COUNTY CHEYENNE STATE KANSAS DRLG. FLD. WATER BASE MUD CORES DIAMOND
 LOCATION C NW NE SEC 13-3S-42W REMARKS SAMPLED BY CLI AS DIRECTED BY REPRESENTATIVE OF CLIENT

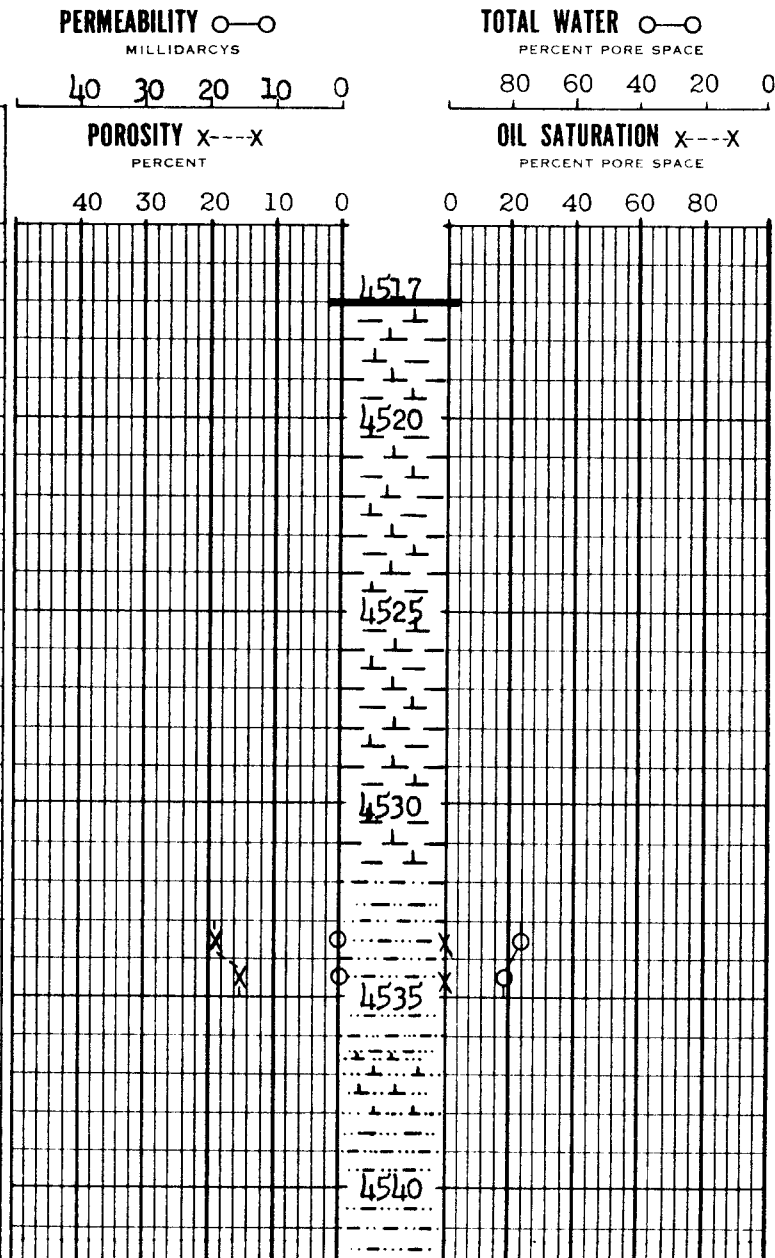
SAND LIMESTONE CONGLOMERATE CHERT
 SHALE DOLOMITE PIN POINT VUG LARGER VUGS

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TABULAR DATA and INTERPRETATION

SAMPLE NUMBER	DEPTH FEET	PERM. MD.	POROSITY %	RESIDUAL SATURATION % PORE SPACE		PROD
				OIL	TOTAL WATER	
1	4533-34	<0.1	19.1	0.0	76.0	
2	4534-35	<0.1	15.8	0.0	81.0	

COMPLETION COREGRAPH



3	4547-48	<0.1	13.7	60.0	12.4
4	48-49	2.9	16.4	57.9	12.8
5	49-50	<0.1	16.0	58.1	11.9
6	50-51	<0.1	11.8	55.2	29.7
7	51-52	<0.1	6.5	55.3	23.0
8	52-53	6.3	6.9	62.3	14.5
9	53-54	<0.1	4.9	40.8	20.4
10	54-55	80	5.7	40.4	26.3
11	4555-56	<0.1	6.7	34.3	22.4

