

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

June 16, 1959

REPLY TO
707 MID-CONTINENT BLDG.
TULSA, OKLAHOMA

Salmon Corporation
823 South Detroit
Tulsa, Oklahoma

Attention: Mr. G. P. Alden

Subject: Core Analysis
Pavlicek Fee No. 1-A Well
Northeast Elsmore Field
Allen County, Kansas

Gentlemen:

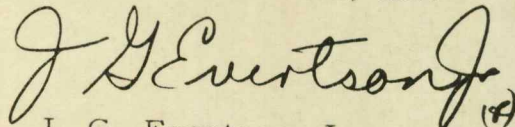
Bartlesville formation from the interval, 630 to 670 feet, was analyzed for permeability, porosity and residual fluid saturations. The results of these determinations are given in both tabular and graphical forms on the accompanying Completion Coregraph. Average core analysis data for the 40 feet analyzed are given on page one of the report.

Samples of recovered formation were selected by a representative of Salmon Corporation and submitted to the Bartlesville laboratory for analysis.

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:bd

10 cc. - Addressee

1 cc. - Mr. K. R. Lyle
Salmon Corporation
Garnett, Kansas

34-25-21E

Pavlicek Fee 1-A

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Page 1 of 1 File CP-5-1100 PC
Well Pavlicek Fee No. 1-A

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

FORMATION NAME AND DEPTH INTERVAL: Bartlesville 630.0-670.0

FEET OF CORE RECOVERED FROM ABOVE INTERVAL	40.0	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	38.4
FEET OF CORE INCLUDED IN AVERAGES	40.0	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	
AVERAGE PERMEABILITY: MILLIDARCYB	21	OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-Feet	840	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT	20.1	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE	39.0	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.)

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: MILLIDARCYB		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.



CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

COMPANY SALMON CORPORATION DATE ON 5-27-59 FILE NO. CP-5-11001-C
 WELL PAVLICEK FEE NO. 1-A DATE OFF 5-27-59 ENGR'S WALLIN
 FIELD NORTHEAST ELSMORE FORMATION BARTLESVILLE ELEV. 1043' RL
 COUNTY ALLEN STATE KANSAS DRUG. FLD. WATER BASE MUD CORES DIAMOND
 LOCATION SE NW NE SEC 34-25S-21E REMARKS SAMPLED BY REPRESENTATIVE OF CLIENT

SAND LIMESTONE CONGLOMERATE CHERT
 SHALE DOLOMITE SILTSTONE

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COMPLETION COREGRAPH

TABULAR DATA and INTERPRETATION

PERMEABILITY MILLIDARCYs
 40 30 20 10 0
 POROSITY X---X PERCENT
 40 30 20 10 0
 TOTAL WATER PERCENT PORE SPACE
 80 60 40 20 0
 OIL SATURATION X---X PERCENT PORE SPACE
 0 20 40 60 80

SAMPLE NUMBER	DEPTH FEET	PERM. MD.	POROSITY %	RESIDUAL SATURATION % PORE SPACE		PROD.
				OIL	TOTAL WATER	
1	630-31	4.5	17.7	24.9	37.9	
2	31-32	6.5	21.0	18.1	41.7	
3	32-33	12	20.4	19.6	47.0	
4	33-34	0.1	18.7	17.1	43.3	
5	34-35	4.0	17.7	28.8	33.4	
6	35-36	8.4	21.0	32.4	30.5	
7	36-37	35	22.2	35.6	42.3	
8	37-38	49	22.7	33.0	45.7	
9	38-39	37	21.9	29.7	50.2	
10	39-40	0.8	17.7	30.0	41.3	
11	40-41	19	22.4	31.7	37.0	
12	41-42	53	22.5	36.0	44.4	
13	42-43	34	24.0	37.1	41.7	
14	43-44	58	20.3	34.4	43.8	
15	44-45	57	23.2	35.7	45.6	
16	45-46	10	19.1	38.2	37.1	
17	46-47	10	20.6	42.7	37.8	
18	47-48	10	19.3	46.7	31.1	
19	48-49	16	16.4	28.0	59.7	
20	49-50	74	22.2	45.8	33.8	
21	50-51	18	22.1	54.7	25.8	
22	51-52	21	22.1	49.7	22.2	
23	52-53	15	20.1	44.8	36.3	
24	53-54	6.5	21.1	32.7	49.3	
25	54-55	1.3	22.5	31.5	48.0	
26	55-56	0.4	21.6	42.6	48.1	
27	56-57	1.7	16.4	40.2	46.3	
28	57-58	0.4	18.6	54.7	29.0	
29	58-59	0.4	19.7	42.1	28.4	
30	59-60	0.3	22.8	50.5	24.6	
31	60-61	0.2	20.3	47.1	21.2	
32	61-62	45	20.7	52.0	29.9	
33	62-63	45	15.7	30.6	51.0	
34	63-64	62	20.0	36.5	40.5	
35	64-65	68	18.4	47.9	38.6	
36	65-66	0.2	17.3	45.1	33.0	
37	66-67	10	16.2	42.6	45.7	
38	67-68	39	18.3	52.5	35.0	
39	68-69	3.1	19.1	59.1	28.3	
40	669-70	11	19.0	56.8	27.4	

