June 13, 1963

Western Petroleum Company, Inc.
Box 524
Great Bend, Kansas

Attention: Mr. John Volosin

Subject: Core Analysis
Brown "A" No. 1 Well
Semi Wildcat Field
Stafford, Kansas
CLI File No. CP-1-4756

Gentlemen:

Mississippian formation analyzed from 4128.0 to 4129.9 feet is considered of no productive significance.

Formation analyzed from 4129.9 to 4137.0 feet is interpreted to be oil productive with a substantial water cut. Weighted average core analysis values are presented on page one of this report along with an estimate of the original stock-tank oil in place.

Formation analyzed from 4138.2 to 4151.7 feet exhibits fluid saturations indicative of water production.

Thank you for this opportunity of serving you.

Yours very truly,
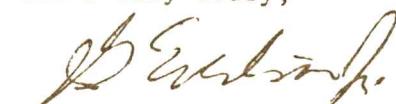
J. G. Evertson, Jr.
District Manager

JGE:db
7 cc: Addressee

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS. TEXAS

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

FORMATION NAME AND DEPTH INTERVAL: Mississippian 4129.9 - 4137.0 feet

FEET OF CORE RECOVERED FROM ABOVE INTERVAL	7.1	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	72.1
FEET OF CORE INCLUDED IN AVERAGES	7.1	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE (e)	70
AVERAGE PERMEABILITY: MILLIDARCYS Max. / 90°	746 / 207	OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-FEET Max. / 90°	5298 / 1470	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT	16.0	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL (e)	1.25
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE	8.1	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	297

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.

CORE LABORATORIES, INC.

CORE LAB

Petroleum Reservoir Engineering

COMPANY	WESTERN PETROLEUM CO., INC.	DATE ON	6-7-63	FILE NO.	CP-1-4756
WELL	BROWN "A" NO. 1	DATE OFF	6-13-63	ENGRS.	WELBORNE
FIELD	SEMI WILDCAT	FORMATION	MISSISSIPPIAN	ELEV.	1995' KB
COUNTY	STAFFORD STATE KANSAS	DRLG. FLD.	OIL EMULSION	CORES	DIAMOND
LOCATION	SW NE NE SEC. 30-24S-14W	REMARKS	SAMPLED BY CLI ENGINEER AS DIRECTED BY THE CLIENT.

Special Analysis

CORE REPORT

SAND ☐   LIMESTONE ☐   CONGLOMERATE ☐   CHERT ☐

SHALE ☐   DOLOMITE ☐   ☐   ☐

These analyses, opinions or interpretations are based on observations and material 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 representations, as to the productivity, proper operation or profitableness of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

PERMEABILITY, Maximum O——O
MILLIDARCYS
40 30 20 10 0

TOTAL WATER O——O
PERCENT PORE SPACE
80 60 40 20 0

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS MAX	90	POROSITY	RESIDUAL SATURATION PORE SPACE OIL	TOTAL WATER
1	4128.0-29.0	0.1	<0.1	6.4	6.2	90.8
2	29.0-29.9	0.4	<0.1	7.0	2.9	94.2
3	29.9-31.1	30	29	16.4	9.2	69.0
4	31.1-32.1	0.8	0.7	14.8	6.8	71.8
5	32.1-33.5	348	241	15.5	5.8	78.2
6	33.5-34.6	98	67	16.8	10.1	65.6
7	34.6-36.0	>3000	700	16.2	9.9	70.5
8	36.0-37.0	46	43	16.1	6.8	77.0
9	38.2-39.3	4.3	3.6	8.4	1.9	93.7
10	39.3-40.2	9.8	9.5	6.1	3.0	92.8
11	40.2-41.0	2.3	1.4	6.5	2.2	91.8
12	41.0-42.4	12	10	5.7	1.1	95.3
13	42.4-44.3	7.3	4.7	5.5	2.4	93.8
14	44.3-45.8	17	16	7.0	3.9	89.3
15	46.1-46.8	10	8.7	4.7	3.6	84.3
16	46.8-48.2	2.8	1.7	4.9	2.2	93.5
17	48.2-50.0	13	10	6.6	2.1	91.1
18	4150.0-51.7	17	13	8.5	1.2	90.9

POROSITY X----X
PERCENT
40 30 20 10 0

OIL SATURATION X----X
PERCENT PORE SPACE
0 20 40 60 80

Depth markers: 4111, 4115, 4120, 4125, 4130, 4135, 4140, 4145, 4150, 4155, 4160