C-. 319

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS. TEXAS

 File WP-3-3465
Well Shipp No. 2

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

FORMATION NAME AND DEPTH INTERVAL: Strawn 11,440.0-11,492.0

FEET OF CORE RECOVERED FROM ABOVE INTERVAL		50.0	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE		52.9
FEET OF CORE INCLUDED IN AVERAGES		21.9	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	(c)	34
AVERAGE PERMEABILITY: MILLIDARCYS	Max.:	20	OIL GRAVITY: °API	(e)	45
	90° :	10			
PRODUCTIVE CAPACITY: MILLIDARCY-FEET	Max.:	438	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	(e)	1000
	90° :	219			
AVERAGE POROSITY: PER CENT		6.0	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	(e)	1.58
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE		3.8	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT		234

Calculated maximum solution gas drive recovery is 30. barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is 48 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. *Petroleum Reservoir Engineering*

COMPANY PUBCO PETROLEUM CORPORATION — FILE NO. WP-3-3465

WELL SHIPP NO. 2 — DATE 5-24-72 — ENGRS. BOONE

FIELD WILDCAT — FORMATION STRAWN — ELEV. 3757' KB

COUNTY LEA — STATE NEW MEXICO — DRLG. FLD. WATER BASE MUD — CORES DAIMOND 4 1/4"

LOCATION 2130' FEL 1980' FSL NW/4 SE/4, SEC 11-T17S-R37E — REMARKS SAMPLED AS DIRECTED BY CLIENT

COMPLETION COREGRAPH

SAND · LIMESTONE · CONGLOMERATE · CHERT · ANHYDRITE

SHALE · DOLOMITE · OOLITES

SAMPLE CHARACTERISTICS
F=Fractured L=Laminated FG; MG; CG=Type Grain Size S=Stylolitic V=Vuggy

PROBABLE PRODUCTION
O=Oil W=Water G=Gas T=Transitional

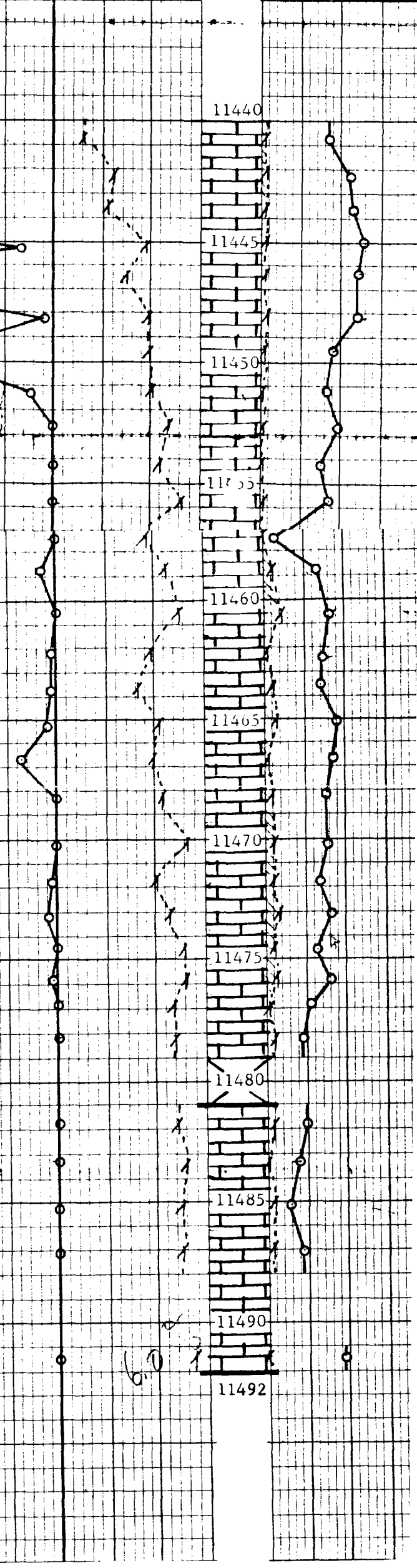
SAMPLE NUMBER	DEPTH FEET	PERMEABILITY, MD. * = Horizontal Perm Plug MAX	PERMEABILITY, MD. * = Horizontal Perm Plug 90°	POROSITY %	RESIDUAL SATURATION % PORE SPACE OIL	RESIDUAL SATURATION % PORE SPACE TOTAL WATER	
1	11440.0-41.5	140	97	11.8	2.6	57.2	V
2	41.5-43.0	76	2.3	8.7	3.3	43.6	V
3	43.0-44.4	35	23	9.3	2.9	42.5	V
4	11444.4-45.8	3.6	2.1	5.4	3.4	35.4	V
5	45.8-47.5	26	20	7.7	2.6	39.1	V
6	11447.5-49.0	0.9	0.2	5.3	3.6	39.6	V
7	49.0-50.5	13	9.6	5.3	2.8	53.7	V
8	11450.5-52.0	2.3	0.6	4.9	0.6	58.8	V
9	52.0-53.5	<0.1	<0.1	3.2	0.6	51.7	V
10	11453.5-55.0	*0.1	*0.1	4.2	0.0	62.2	F
11	55.0-56.8	0.1	0.1	1.9	1.6	57.0	F
12	11456.8-58.2	*0.1	*0.1	5.8	0.0	92.0	F
13	58. -59.5	1.6	0.1	3.7	5.7	67.5	F
14	11459.5-61.4	<0.1	<0.1	2.3	10.7	58.8	V
15	11461.4-63.0	*0.2	*0.2	5.4	1.7	63.5	FV
16	63.0-64.5	*0.4	*0.4	6.7	5.2	64.7	F
17	11464.5-66.0	0.8	0.6	4.5	7.1	54.1	FV
18	66.0-67.5	3.6	0.5	5.2	1.0	57.2	
19	11467.5-69.3	*0.1	*0.1	4.3	4.2	62.7	V
20	11469.3-71.1	<0.1	<0.1	1.8	5.1	61.2	F
21	71.1-72.5	0.4	0.3	4.9	5.4	66.2	V
22	11472.5-73.8	0.9	<0.1	3.6	7.8	58.0	FV
23	73.8-75.2	<0.1	<0.1	2.1	4.9	68.0	
24	75.2-76.3	0.1	<0.1	1.9	6.5	59.2	F
25	76.3-77.5	<0.1	<0.1	3.3	1.5	72.2	F
26	11477.5-79.0	<0.1	<0.1	3.0	4.9	77.2	F
27	11481.0-82.7	<0.1	<0.1	2.8	4.2	76.7	
28	11482.7-84.5	<0.1	<0.1	2.1	0.0	79.7	STY
29	11484.5-86.2	<0.1	<0.1	2.6	3.5	86.3	
30	11486.2-88.0	<0.1	<0.1	2.5	2.8	76.8	F
31	11491.0-92.0	<0.1	<0.1	1.3	0.0	52.8	

PERMEABILITY ○—○ MILLIDARCYS 10 5

POROSITY X---X PERCENT 10 5

TOTAL WATER ○—○ PERCENT PORE SPACE 75 50 25

OIL SATURATION X---X PERCENT PORE SPACE 25 50 75



BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO.
Submitted by
Hearing Date

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS
June 2, 1972

Pubco Petroleum Corporation
P. O. Box 869
Albuquerque, New Mexico 87100

Attention: Mr. J. C. Johnson

Subject: Core Analysis
Shipp No. 2 Well
Wildcat
Lea County, New Mexico
Location: Sec. 11-T17S-R37E

Gentlemen:

Diamond coring equipment and water base mud were used to core the subject well. The cores were sampled by a representative of Core Laboratories, Inc., under the direction of an employee of Pubco Petroleum Corporation. The analysis was performed in our Midland laboratory. Results of the analyses are presented in tabular and graphical forms on the attached Coregraph.

Strawn formation analyzed between 11,440 to 11,492 feet is interpreted to be oil productive where sufficiently permeable. Average core analysis values and theoretical maximum recoverable oil estimates, calculated from estimated original reservoir fluid characteristics, have been prepared and are presented on page one of this report.

We sincerely appreciate this opportunity to serve you.

Very truly yours,

Core Laboratories, Inc.

R S Bynum (R)

R. S. Bynum
District Manager

RSB:AB:dl
1 cc. - Addressee
1 cc. - Mr. M. E. Causey
Pubco Petroleum Corporation
Midland, Texas 79701

EXHIBIT 6

J. R. MODRALL
JAMES E. SPERLING
JOSEPH E. ROEHL
GEORGE T. HARRIS, JR.
DANIEL A. SISK
LELAND S. SEDBERRY, JR.
ALLEN C. DEWEY, JR.
FRANK H. ALLEN, JR.
JAMES P. SAUNDERS, JR.
JAMES A. PARKER
JOHN R. COONEY
KENNETH L. HARRIGAN
PETER J. ADANG

DALE W. EK
DENNIS J. FALK
FARRELL L. LINES
ARTHUR D. MELENDRES

LAW OFFICES OF
MODRALL, SPERLING, ROEHL, HARRIS & SISK
PUBLIC SERVICE BUILDING
P. O. BOX 2168
ALBUQUERQUE, NEW MEXICO 87103

JOHN F. SIMMS (1885-1954)
AUGUSTUS T. SEYMOUR
(1907-1965)

TELEPHONE 243-4511
AREA CODE 505

June 6, 1972

DNO
Case 4748

Mr. George Hatch
Attorney
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Pubco Petroleum Corporation's Application -
West Knowles Prospect

Dear George:

Please refer to the Application of Pubco Petroleum, which I left with you yesterday, June 5. In reviewing the application, I find an error on page 2, the last line of paragraph numbered 2, recommending well spacing. The tolerance requested, which currently reads, "a well may be located within a radius of 150 feet from the center of a governmental quarter section," should be amended to read, "within a radius of 150 feet of any quarter-quarter section." I would appreciate it if you would correct the application by interlineation accordingly.

Thank you very much.

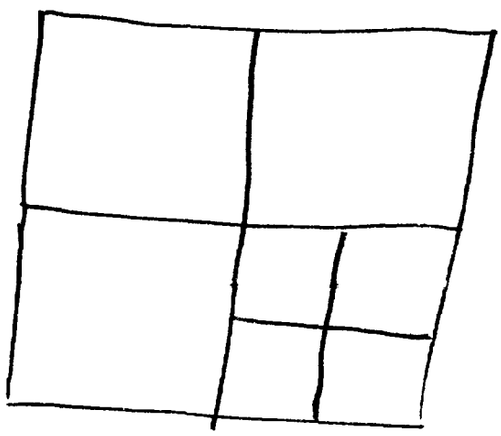
Very truly yours,

James E. Sperling

JES:jv

cc: Mr. Jim Johnson
Pubco Petroleum

ORDER MAILED
DATE 6-13-72



WELL AND COMPLETION DATA
HUMBLE CITY-STRAWN POOL

		Harding O&G Shipp #1	Pubco Petroleum Corp. Shipp #2
1.	Company and Well		
2.	Location of Well (Sec. 11-17S-37E)	2080' FWL & 2310' FSL	2130' FEL & 1980' FSL
3.	Total Depth	11,673'	11,685'
4.	Top of Strawn Limestone (Middle-Lower)	11,400' (-7639)	11,425' (-7668)
5.	Top of Pay	11,420' (-7659)	11,430' (-7673)
6.	Completion Date	March 9, 1972	June 10, 1972
7.	Perforated Interval	11,420-11,452' 22	11,430-452' & 11,464-468' 26
8.	Treatment	2,000 gals. acid	5,000 gals. acid
9.	Initial Potential, BOPD	286	758
	Choke Size	10/64"	24/64"
	GOR	1000	1662
	FTP	1600	700
	FCP	Pkr.	Pkr.
	Oil Gravity, °API	45	45
10.	Net Pay	34'	30'
11.	Average Porosity	5.1%	6.30%
12.	Permeability	--	20 md.
13.	Water Saturation	25%	25%
14.	Reservoir Temperature	165° F	168° F
15.	Initial Reservoir Press.	4800 psi	3473 psi

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 4748
Submitted By
Hearing Date

EXHIBIT 3

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

July 17, 1972

Mr. James E. Sperling
Modrall, Sperling, Roehl, Harris & Sisk
Post Office Box 2168
Albuquerque, New Mexico 87103

Re: Case No. 4748
Order No. R-4337
Applicant:
PUBCO PETROLEUM CORPORATION

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC

Other Mr. Clarence Hinkle, Mr. Sumner Buell