BEFORE THE OIL CONSERVATION COMMISSION
OF THE
STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF CONTINENTAL OIL COMPANY FOR A
NEW GAS POOL DESIGNATION FOR TUBB
PRODUCTION FROM ITS WARREN UNIT
BT WELL NO. 8 LOCATED IN SECTION
28, T20S, R38E, LEA COUNTY, NEW
MEXICO, THE HORIZONTAL LIMITS OF
SAID POOL TO ENCOMPASS THE E/2
OF SECTION 28, T20S, R38E, NMPM,
LEA COUNTY, NEW MEXICO; AND FOR THE
ESTABLISHMENT OF POOL RULES TO GOVERN
THE PRODUCTION FROM THIS POOL

A P P L I C A T I O N

Comes now applicant, Continental Oil Company, and re-
spectfully petitions the Commission for a new pool designation for
Tubb gas production from its Warren Unit BT No. 8 well, located
1980 feet from South and East lines of Section 28, T20S, R38E,
N.M.P.M., Lea County, New Mexico, and for pool rules governing the
production from this pool similar to those adopted for the Tubb pool
with the exception that the limiting gas-oil ratio for oil wells as
provided in Rule 19 of Order R-586-B be 6,000 cubic feet of gas for
each barrel of oil produced. In support of this application, appli-
cant would show:

1. That applicant is operator of the Warren Unit which
contains, in addition to other lands, Section 28, T20S, R38E, N.M.P.M.,
Lea County, New Mexico.

2. That applicant drilled and completed on March 12, 1950,
its Warren Unit Drinkard Well No. 8 as an oil well in the Drinkard
formation at a location 1980 feet from the South and East lines of
said Section 28.

3. That said well was plugged back and dual completed for
gas production from the Tubb and Blinebry formations during February,
1957. The calculated open flow potential for the Tubb zone was 5810
MCF of gas per day. At a producing rate of 750 MCF per day, the
well produced distillate at a rate of 192 barrels per day for a
gas-distillate ratio of 18750 to 1. After recompletion, the well
was redesignated the Warren Unit "BT" No. 8.

4. That the attached plat, contoured on the Tubb marker, indicates the location of the Warren Unit BT No. 8, the location and distance to the nearest Tubb production, the location of wells known to have tested dry in the Tubb zone, the general topographical features of the Tubb formation in this area, and the area suggested for inclusion in the proposed new pool.

5. That the nearest Tubb production to the Warren Unit BT No. 8 is located approximately 12,300 feet South in the Tubb pool.

6. That the accumulation of Tubb gas and distillate under the Warren Unit BT No. 8 is separated from the Tubb pool by an interval of low permeability as evidenced by the dry holes between the two accumulations.

7. That the suggested name for this new pool is the Warren Tubb pool.

8. That the limiting gas-oil ratio for oil wells to be drilled in the pool be 6,000 cubic feet for each barrel of oil produced.

Wherefore, applicant respectfully prays that this application be set for hearing before the Commission's duly appointed examiner at Hobbs, New Mexico, that due notice thereof be given, and that upon hearing an order be entered establishing a new pool designation and pool rules for the Continental Oil Company Warren Unit BT No. 8 Tubb formation.

Respectfully submitted

CONTINENTAL OIL COMPANY

By _R. L. Adams_

CONTINENTAL OIL COMPANY

825 PETROLEUM BUILDING
ROSWELL, NEW MEXICO

R. L. ADAMS
DIVISION SUPERINTENDENT
OF PRODUCTION
NEW MEXICO DIVISION

May 13, 1958

New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr., Secretary-Director

Gentlemen:

Attached are three copies of Continental Oil Company's application for a new pool designation for Tubb gas production from its Warren Unit BT Well No. 8, located 1980 feet from the south and east lines of Section 28, T20S, R38E, NMPM, Lea County, New Mexico, and for the establishment of pool rules to govern the production from this pool. It is respectfully requested that this matter be set for hearing at the earliest convenient date.

Yours very truly,

R. L. Adams

RLA-JC

Enc

cc: HLJ, FTE

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool __Undesignated__ Formation __Tubb__ County __Lea__

Initial _____ Annual _____ Special __X__ Date of Test __4-14-58__

Company __Continental Oil Company__ Lease __Warren Unit B.T.__ Well No. __8__

Unit __J__ Sec. __28__ Twp. __20-S__ Rge. __38-E__ Purchaser __El Paso Natural Gas Co.__

Casing __7"__ Wt. __23#__ I.D. __6.336__ Set at PB __6692__ (9072) Perf. __6360__ To __6590__

Tubing OD __2.375__ Wt. __4.7__ I.D. __1.995__ Set at __6480__ Perf. _____ To _____

Gas Pay: From __6360__ To __6590__ L __6360__ xG-MIX= __.737__ GL __4687__ Bar.Press. __13.2__

Producing Thru: Casing _____ Tubing __X__ Type Well __G. G. Dual__
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: __2-11-57__ Packer __6240__ Reservoir Temp. __95o__

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter)   Type Taps __Flange__

No.	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	Duration of Flow Hr.
SI						2071				72
1.	4	1.500	616	9.9	40	1864				24
2.	4	1.500	601	24.1	36	1759				24
3.	4	1.500	593	46.2	42	1603				24
4.	4	1.500	567	73.0	37	1458				24
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	13.99	78.93	629.2	1.0198	.9427	1.096	1163
2.	13.99	121.66	614.2	1.0239	"	1.090	1791
3.	13.99	167.35	606.2	1.0178	"	1.090	2448
4.	13.99	205.80	580.2	1.0229	"	1.085	3012
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio __37,650__ cf/bbl. ✓
Gravity of Liquid Hydrocarbons __76.2__ deg. ✓
F_c __9.936__ (1-e⁻ˢ) __0.276__

Specific Gravity Separator Gas __.676__
Specific Gravity Flowing Fluid __.737__
P_c __2084.2__ P_c^2 __4343.9__

No.	P_w P_t (psia)	P_t^2	$F_c Q$	$(F_c Q)^2$	$(F_c Q)^2$ (1-e⁻ˢ)	P_w^2	$P_c^2 - P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	1877.2	3523.9	11.56	133.63	36.88	3560.8	783.1	1887.0	.91
2.	1772.2	3140.7	16.69	278.56	76.88	3217.6	1126.3	1793.7	.86
3.	1616.2	2612.1	24.32	591.46	163.24	2775.3	1568.6	1665.9	.80
4.	1471.2	2164.4	29.93	895.80	247.24	2411.6	1932.3	1552.9	.75 *
5.									

Absolute Potential: __6,700__ MCFPD; n __.98__
COMPANY __Continental Oil Company__
ADDRESS __Box 427, Hobbs, New Mexico__
AGENT and TITLE __W. D. Howard, Gas Tester__
WITNESSED _____
COMPANY _____

REMARKS

Flow Rate No.	1	2	3	4
Bbls. Distillate Production	42	55	58	80
Gas-Oil Ratio	27,690	32,564	42,207	37,650

* Orifice size prohibited obtaining 30% drawdown on highest rate.

INSTRUCTIONS

·   This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w). MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater. psia

P_w = Static wellhead working pressure as determined at the end of flow period. (Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

P_f = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.
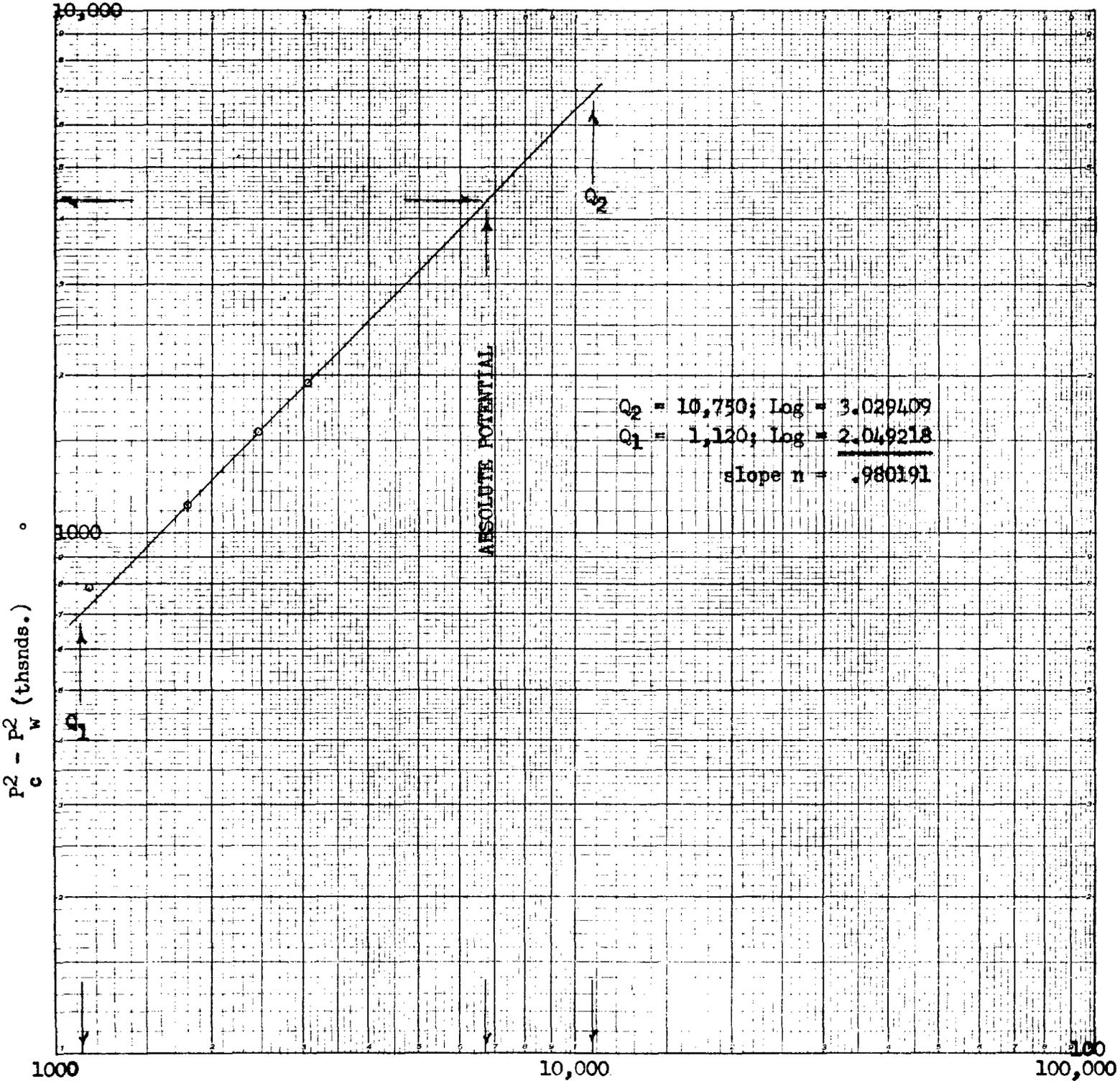
F_t = Flowing temperature correction factor.

F_{pv} = Supercompressability factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t.

COMPANY	Continental Oil Co.
WELL	Warren Unit BT No.8 (Tubb)
LOCATION	J 28-20S-38E
COUNTY	Lea
DATE	4-14-58

10,000

1000

100

ABSOLUTE POTENTIAL

Q_2

$$Q_2 = 10,750; \; Log = 3.029409$$
$$Q_1 = 1,120; \; Log = 2.049218$$
$$slope \; n = .980191$$

Q_1

$P_c^2 - P_w^2$ (thsnds.)

1000   10,000   100,000

Q - MCF/D - 15.025 psia