

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Eumont Formation Indes, 7 Rivers & Juen County LeaInitial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 9/10 - 9/14/56Company Continental Oil Company Lease Lockhart 5-28 Well No. 3Unit L Sec. 28 Twp. 21S Rge. 36E Purchaser EPNGCasing 5 1/2 Wt. 17 I.D. \_\_\_\_\_ Set at 3796 Perf. \_\_\_\_\_ To \_\_\_\_\_

Tubing \_\_\_\_\_ Wt. \_\_\_\_\_ I.D. \_\_\_\_\_ Set at \_\_\_\_\_ Perf. \_\_\_\_\_ To \_\_\_\_\_

Gas Pay: From 2950 To 3600 L 3600 xG .475 -GL 1991 Bar.Press. 13.2Producing Thru: Casing 7-5/8" Tubing \_\_\_\_\_ Type Well BradenheadDate of Completion: 4-2-36 Packer \_\_\_\_\_ Single-Bradenhead-G. G. or G.O. Dual 90  
Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through XXXXXX (Prover) XXXXXX (Choke) (Meter) Type Taps Flange

| No. | Flow Data   |                |             |                      |           | Tubing Data |           | Casing Data |           | Duration of Flow Hr. |
|-----|-------------|----------------|-------------|----------------------|-----------|-------------|-----------|-------------|-----------|----------------------|
|     | (Line) Size | (Orifice) Size | Press. psig | Diff. h <sub>w</sub> | Temp. °F. | Press. psig | Temp. °F. | Press. psig | Temp. °F. |                      |
| SI  |             |                |             |                      |           |             |           |             |           |                      |
| 1.  | 4           | 1.000          | 549         | 3.7 <sup>2</sup>     | 106       |             |           | 1098        |           | 72                   |
| 2.  | 4           | 1.000          | 555         | 5.5 <sup>2</sup>     | 80        |             |           | 809         |           | 24                   |
| 3.  | 4           | 1.000          | 545         | 6.9 <sup>2</sup>     | 82        |             |           | 75          |           | 24                   |
| 4.  | 4           | 1.000          | 534         | 8.2 <sup>2</sup>     | 82        |             |           | 69          |           | 24                   |
| 5.  |             |                |             |                      |           |             |           | 63          |           | 24                   |

## FLOW CALCULATIONS

| No. | Coefficient (24-Hour) | $\sqrt{h_{wPf}}$ | Pressure psia | Flow Temp. Factor F <sub>t</sub> | Gravity Factor F <sub>g</sub> | Compress. Factor F <sub>pv</sub> | Rate of Flow Q-MCFPD @ 15.025 psia |
|-----|-----------------------|------------------|---------------|----------------------------------|-------------------------------|----------------------------------|------------------------------------|
| 1.  | 6.135                 | 86.70            | 552.2         | .9585                            | .9427                         | .045                             | 503                                |
| 2.  | 6.135                 | 130.74           | 568.2         | .9813                            | .9427                         | .056                             | 783                                |
| 3.  | 6.135                 | 161.08           | 553.2         | .9795                            | .9427                         | .053                             | 961                                |
| 4.  | 6.135                 | 189.49           | 547.2         | .9775                            | .9427                         | .053                             | 1130                               |
| 5.  |                       |                  |               |                                  |                               |                                  |                                    |

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> Not applicable (1-e<sup>-s</sup>) Not applicableSpecific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 1111.2 P<sub>c</sub> 1234.8

| No. | P <sub>w</sub> P <sub>t</sub> (psia) | P <sub>t</sub> <sup>2</sup> | F <sub>c</sub> Q | (F <sub>c</sub> Q) <sup>2</sup> | (F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> ) | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup> | Cal. P <sub>w</sub> | P <sub>w</sub> /P <sub>c</sub> |
|-----|--------------------------------------|-----------------------------|------------------|---------------------------------|------------------------------------------------------|-----------------------------|----------------------------------------------------------|---------------------|--------------------------------|
| 1.  | 822.2                                | 676.0                       |                  |                                 |                                                      | 676.0                       | 55.8                                                     |                     | .74                            |
| 2.  | 763.2                                | 582.5                       |                  |                                 |                                                      | 582.5                       | 65.3                                                     |                     | .69                            |
| 3.  | 710.2                                | 504.4                       |                  |                                 |                                                      | 504.4                       | 73.4                                                     |                     | .64                            |
| 4.  | 652.2                                | 425.4                       |                  |                                 |                                                      | 425.4                       | 80.4                                                     |                     | .59                            |
| 5.  |                                      |                             |                  |                                 |                                                      |                             |                                                          |                     |                                |

Absolute Potential: 1,700 MCFPD; n 1.00COMPANY Continental Oil CompanyADDRESS Box 427, Hobbs, New MexicoAGENT and TITLE V. D. Howard, Gas Tester

WITNESSED \_\_\_\_\_

COMPANY \_\_\_\_\_

REMARKS \_\_\_\_\_

## 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 casing, tubing if flowing thru tubing.) 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.

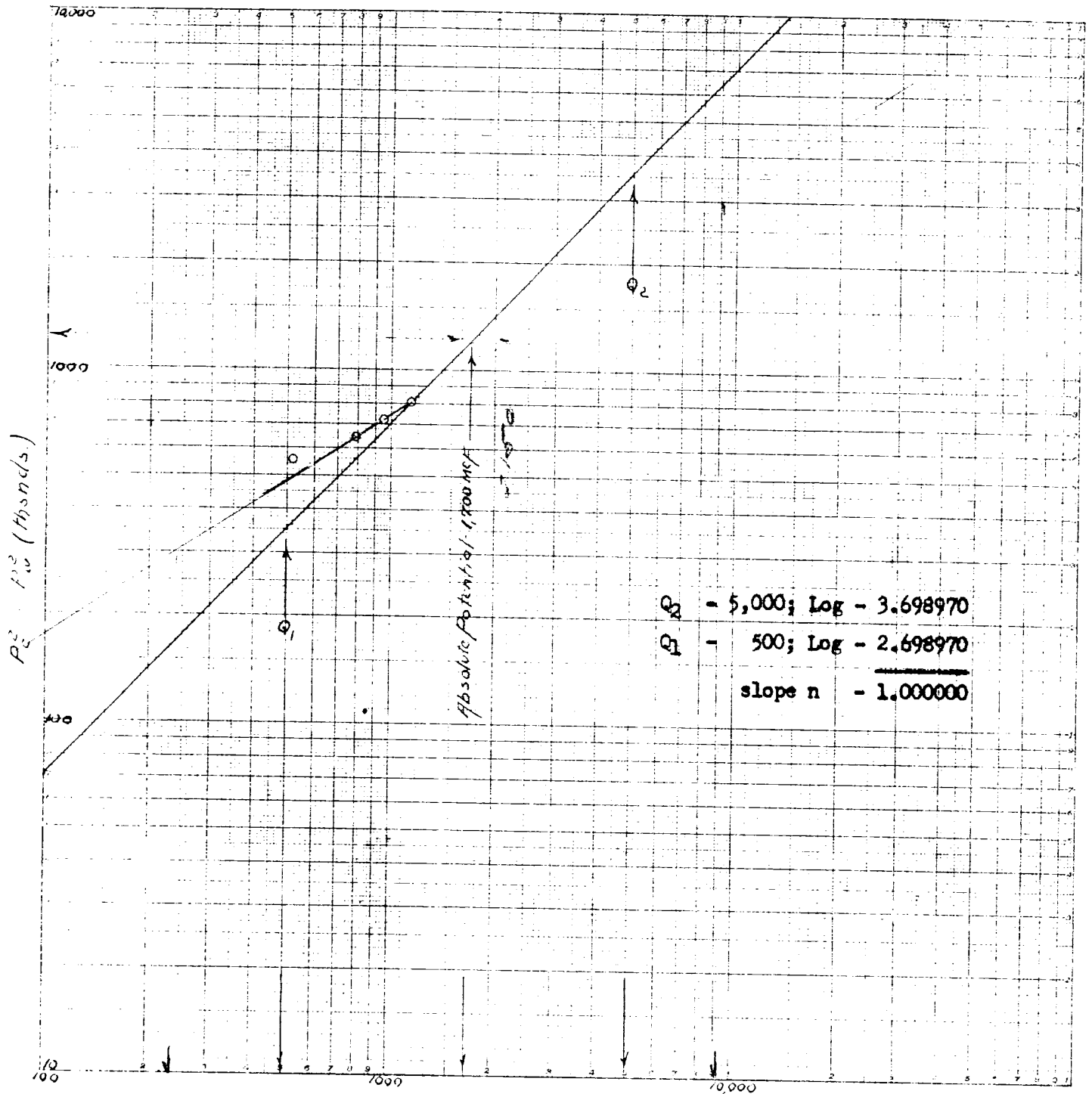
$F_t$  = Flowing temperature correction factor.

$F_{pv}$  = Supercompressibility factor.

$n$  = Slope of back pressure curve.

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

Continental Oil Company  
 Lockhart F-28 No.3  
 L 28-T21S-R36E  
 Lea  
 9/14/'56



$Q_2 = 5000$  3.698970  
 $Q_1 = 500$  2.698970  
 slope n = 1.000000