

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queen County Lea
Initial X Annual _____ Special _____ Date of Test 2-25-58
Company Continental Oil Company Lease State A-7 Well No. 1
Unit I Sec. 7 Twp. 19 Rge. 37 Purchaser -
Casing 5 1/2 Wt. 17 I.D. _____ Set at 3843 Perf. 3464 To 3752
Tubing 2 Wt. 4.7 I.D. _____ Set at 3900 Perf. - To -
Gas Pay: From 3464 To 3752 L 3464 xG .670 -GL 2321 Bar.Press. 13.2
Producing Thru: Casing X Tubing - Type Well G. O. Dual
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 2-25-58 Packer X Reservoir Temp. 90°

OBSERVED DATA

Tested Through (PROVER) (ORIFICE) (Meter) Type Taps Flange

| No. | Flow Data | | | | | Tubing Data | | Casing Data | | Duration of Flow Hr. |
|-----|----------------------------|--------------------------------|----------------|-------------------------|--------------|----------------|--------------|----------------|--------------|----------------------|
| | (PROVER) (Line) Size | (ORIFICE) (Orifice) Size | Press. psig | Diff. h _w | Temp. °F. | Press. psig | Temp. °F. | Press. psig | Temp. °F. | |
| SI | | | | | | | | <u>936</u> | | <u>72</u> |
| 1. | <u>4</u> | <u>1.250</u> | <u>451</u> | <u>15</u> | <u>46</u> | | | <u>865</u> | | <u>2</u> |
| 2. | <u>4</u> | <u>1.250</u> | <u>555</u> | <u>26</u> | <u>50</u> | | | <u>809</u> | | <u>2</u> |
| 3. | <u>4</u> | <u>1.250</u> | <u>700</u> | <u>36</u> | <u>63</u> | | | <u>742</u> | | <u>2</u> |
| 4. | <u>4</u> | <u>1.750</u> | <u>800</u> | <u>19</u> | <u>71</u> | | | <u>515</u> | | <u>2</u> |
| 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. | <u>9.643</u> | <u>83.45</u> | <u>464.2</u> | <u>1.0137</u> | <u>.9463</u> | <u>1.034</u> | <u>798</u> |
| 2. | <u>9.643</u> | <u>121.54</u> | <u>568.2</u> | <u>1.0098</u> | <u>"</u> | <u>1.070</u> | <u>1198</u> |
| 3. | <u>9.643</u> | <u>160.24</u> | <u>713.2</u> | <u>.9971</u> | <u>"</u> | <u>1.082</u> | <u>1580</u> |
| 4. | <u>19.270</u> | <u>123.46</u> | <u>802.2</u> | <u>.9896</u> | <u>"</u> | <u>1.091</u> | <u>2431</u> |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio - cf/bbl.
Gravity of Liquid Hydrocarbons - deg.
F_c 1.793 (1-e^{-s}) .148
Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 949.2 P_c² 901.0

| 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 | P _w P _c |
|-----|---|-----------------------------|------------------|---------------------------------|---|-----------------------------|--|------------------------|----------------------------------|
| 1. | <u>878.2</u> | <u>771.2</u> | <u>1.43</u> | <u>2.04</u> | <u>.30</u> | <u>771.5</u> | <u>129.5</u> | <u>878.4</u> | <u>.93 *</u> |
| 2. | <u>822.2</u> | <u>676.0</u> | <u>2.15</u> | <u>4.62</u> | <u>.68</u> | <u>676.7</u> | <u>224.3</u> | <u>822.6</u> | <u>.86</u> |
| 3. | <u>755.2</u> | <u>570.3</u> | <u>2.83</u> | <u>8.00</u> | <u>1.18</u> | <u>571.5</u> | <u>329.5</u> | <u>756.0</u> | <u>.80</u> |
| 4. | <u>528.2</u> | <u>279.0</u> | <u>4.36</u> | <u>19.01</u> | <u>2.81</u> | <u>281.8</u> | <u>619.2</u> | <u>530.9</u> | <u>.56</u> |
| 5. | | | | | | | | | |

Absolute Potential: 3300 MCFPD; n .73
COMPANY Continental Oil Company
ADDRESS Box 427, Hobbs, New Mexico
AGENT and TITLE W. D. Howard, Gas Tester
WITNESSED _____
COMPANY _____

REMARKS

* Drawdown of 5% on first rate not obtained because of freezing.

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 .