

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Basin Formation Bakota Dakota County San Juan  
Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 1-27-65  
Company Austral Oil Co. Lease Bunny et al Well No. 1-10  
Unit \_\_\_\_\_ Sec. 1 Twp. 27 Rge. 5 Purchaser \_\_\_\_\_  
Casing 4 1/2" Wt. 10.54 I.D. 4.052 Set at \_\_\_\_\_ Perf. 6432 To 6670  
Tubing 1 1/2" Wt. 2.1 I.D. 1.41 Set at 6400 Perf. 6400 To Open End  
Gas Pay: From 6432 To 6670 L 6400 xG .65 est. -GL 4160 Bar.Press. \_\_\_\_\_  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Gas Gas Dual  
Date of Completion: \_\_\_\_\_ Packer 6400 Single-Bradenhead-G. G. or G.O. Dual  
Reservoir Temp. \_\_\_\_\_

OBSERVED DATA

Tested Through (Bumper) (Choke) (Meter) Type Taps \_\_\_\_\_

| No. | Flow Data                  |                              |                |                         |              | Tubing Data    |              | Casing Data    |              | Duration of Flow Hr. |
|-----|----------------------------|------------------------------|----------------|-------------------------|--------------|----------------|--------------|----------------|--------------|----------------------|
|     | (Prover)<br>(Line)<br>Size | (Choke)<br>(Orifice)<br>Size | Press.<br>psig | Diff.<br>h <sub>w</sub> | Temp.<br>°F. | Press.<br>psig | Temp.<br>°F. | Press.<br>psig | Temp.<br>°F. |                      |
| 1.  |                            |                              |                |                         |              | 2058           |              |                |              |                      |
| 2.  |                            |                              |                |                         |              |                |              |                |              |                      |
| 3.  |                            | 3/4"                         | 273            |                         | 65           |                |              |                |              | 3 Hrs.               |
| 4.  |                            |                              |                |                         |              |                |              |                |              |                      |
| 5.  |                            |                              |                |                         |              |                |              |                |              |                      |

FLOW CALCULATIONS

| No. | Coefficient<br>(24-Hour) | $\sqrt{h_w P_f}$ | Pressure<br>psia | Flow Temp.<br>Factor<br>F <sub>t</sub> | Gravity<br>Factor<br>F <sub>g</sub> | Compress.<br>Factor<br>F <sub>pv</sub> | Rate of Flow<br>Q-MCFPD<br>@ 15.025 psia |
|-----|--------------------------|------------------|------------------|----------------------------------------|-------------------------------------|----------------------------------------|------------------------------------------|
| 1.  |                          |                  |                  |                                        |                                     |                                        |                                          |
| 2.  |                          |                  |                  |                                        |                                     |                                        |                                          |
| 3.  | 12.54                    |                  | 285              | .9952                                  | .9608                               | 1.026                                  | 3.64                                     |
| 4.  |                          |                  |                  |                                        |                                     |                                        |                                          |
| 5.  |                          |                  |                  |                                        |                                     |                                        |                                          |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> 23.413 (1-e<sup>-s</sup>) .261  
Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 2070 P<sub>c</sub> 4,284,900

| No. | P <sub>w</sub><br>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><br>(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.<br>P <sub>w</sub> | P <sub>w</sub><br>P <sub>c</sub> |
|-----|-----------------------------------------|-----------------------------|------------------|---------------------------------|---------------------------------------------------------|-----------------------------|----------------------------------------------------------|------------------------|----------------------------------|
| 1.  |                                         |                             |                  |                                 |                                                         |                             |                                                          |                        |                                  |
| 2.  |                                         |                             |                  |                                 |                                                         |                             |                                                          |                        |                                  |
| 3.  | 285                                     | 81.225                      | 81.103           | 6577.632                        | 1716.762                                                | 1,777,870                   | 2,487,030                                                |                        | 1,7229                           |
| 4.  |                                         |                             |                  |                                 |                                                         |                             |                                                          |                        |                                  |
| 5.  |                                         |                             |                  |                                 |                                                         |                             |                                                          |                        |                                  |

Absolute Potential: 5209 MCFPD; n = .75 1.5037

COMPANY Austral Oil Co.  
ADDRESS Box 234, Farmington, New Mexico  
AGENT and TITLE Original signed by T. A. Dugan Consulting Engineer  
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 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  $P_t$ .