

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Basin Dakota Formation Dakota County San Juan  
Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 9-16-64  
Company PAN AMERICAN PETROLEUM CORP. Lease Gallegos Canyon Unit-Bak Well No. 177  
Unit P Sec. 31 Twp. 28N Rge. 12W Purchaser \_\_\_\_\_  
Casing 4-1/2 Wt. 10.5 I.D. 4.052 Set at 6022 Perf. 5894-5922 To 5840-5852  
Tubing 2-3/8 Wt. 4.7 I.D. 1.995 Set at 5859 Perf. 5823 To 5829  
Gas Pay: From 5840 To 5922 L. \_\_\_\_\_ xG .700 -GL \_\_\_\_\_ Bar.Press. 12  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 9-7-64 Facker None Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Broken) (Choke) (Strainer) Type Taps Flange

| Flow Data |                            |                              |                |                         |              | Tubing Data    |                 | Casing Data    |                 | Duration<br>of Flow<br>Hr. |
|-----------|----------------------------|------------------------------|----------------|-------------------------|--------------|----------------|-----------------|----------------|-----------------|----------------------------|
| No.       | (Broken)<br>(Line)<br>Size | (Choke)<br>(Orifice)<br>Size | Press.<br>psig | Liff.<br>h <sub>w</sub> | Temp.<br>°F. | Press.<br>psig | Temp.<br>°F.    | Press.<br>psig | Temp.<br>°F.    |                            |
| SI        | <u>9 Days</u>              |                              |                |                         |              | <u>2077</u>    |                 | <u>2079</u>    |                 |                            |
| 1.        | <u>2 Inch</u>              | <u>.750</u>                  | <u>853</u>     |                         |              | <u>853</u>     | <u>60° est.</u> | <u>1751</u>    | <u>60° est.</u> | <u>3 Hr.</u>               |
| 2.        |                            |                              |                |                         |              |                |                 |                |                 |                            |
| 3.        |                            |                              |                |                         |              |                |                 |                |                 |                            |
| 4.        |                            |                              |                |                         |              |                |                 |                |                 |                            |
| 5.        |                            |                              |                |                         |              |                |                 |                |                 |                            |

## FLOW CALCULATIONS

| No. | Coefficient<br>(24-Hour) | $\sqrt{h_{wpf}}$ | 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.  | <u>12.3650</u>           |                  | <u>865</u>       | <u>1.000</u>                           | <u>.9258</u>                        | <u>1.116</u>                           | <u>11.051</u>                            |
| 2.  |                          |                  |                  |  |                                     |  |  |
| 3.  |                          |                  |                  |  |                                     |  |  |
| 4.  |                          |                  |                  |  |                                     |  |  |
| 5.  |                          |                  |                  |  |                                     |  |  |

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> \_\_\_\_\_ (1-e<sup>-s</sup>)

Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 2091 P<sub>c</sub> 4,372,281

| 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.  |   |                             |                  |                                 |   | <u>3,108,160</u>            | <u>1,264,112</u>   |                        |                                  |
| 2.  |   |                             |                  |                                 |   |                             |  |                        |                                  |
| 3.  |   |                             |                  |                                 |   |                             |  |                        |                                  |
| 4.  |   |                             |                  |                                 |   |                             |  |                        |                                  |
| 5.  |   |                             |                  |                                 |   |                             |  |                        |                                  |

Absolute Potential: 28,026 MCFPD; n .75

COMPANY PAN AMERICAN PETROLEUM CORPORATION  
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AGENT and TITLE F. L. Mahora, District Engineer  
WITNESSED By: ORIGINAL SIGNED BY  
COMPANY F. W. Foell

## 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  $P_t$ .