

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Undesignated Dakota Formation Dakota County San Juan  
Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 9-22-60  
Company Delhi-Taylor Oil Corporation Lease Delhi-Madys Well No. 4  
Unit N2/4 Sec. 17 Twp. 34-N Rge. 11-W Purchaser \_\_\_\_\_  
Casing 3-1/2" Wt. 205 I.D. 4.893 Set at 7053 Perf. 7250-84 To 7164-84 7044-80  
Tubing 2 1/8 Wt. 4.75 I.D. 1.995 Set at 7100 Perf. \_\_\_\_\_ To \_\_\_\_\_  
Gas Pay: From 7044 To 7204 L \_\_\_\_\_ xG 0.65 -GL \_\_\_\_\_ Bar.Press. 12  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single gas  
Date of Completion: 9-3-60 Packer None Single-Bradenhead-G. G. or G.O. Dual  
Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Prover) (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. |                      |
| SI  |                            |                              |                |                         |              | <u>1000</u>    |              | <u>1043</u>    |              | <u>7 Days</u>        |
| 1.  |                            | <u>3/4"</u>                  | <u>500</u>     |                         | <u>80°</u>   | <u>500</u>     | <u>80°</u>   | <u>1011</u>    |              | <u>3 Hours</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>12.365</u>            |                  | <u>500</u>       | <u>0.9971</u>                          | <u>0.9808</u>                       | <u>1.024</u>                           | <u>1963</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> 1057 P<sub>c</sub> 3829049

| 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.  |   |                             |                  |                                 |   |                             |  |                        |                                  |
| 4.  |   |                             |                  |                                 |   |                             |  |                        |                                  |
| 5.  |   |                             |                  |                                 |   |                             |  |                        |                                  |

Absolute Potential: 4488 MCFPD; n 0.75  
COMPANY Delhi-Taylor Oil Corporation  
ADDRESS P. O. Drawer 1100, Farmington, New Mexico  
AGENT and TITLE J. F. Smith - Dist. Engineer  
WITNESSED Ed. Nichols  
COMPANY El Paso Natural Gas 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  $P_t$ .

|                             |   |
|-----------------------------|---|
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