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OFFICE OCC

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Exmont Formation Queen County Lea

Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 1-2-57

Company Humble Oil & Refining Co. Lease N. M. State G Well No. 2

Unit P Sec. 26 Twp. 21 S Rge. 36 E Purchaser El Paso Natural Gas Company

Casing 5 1/2 Wt. 17 I.D. 4.892 Set at 3828 Perf. 3640 To 3816

Tubing 2 Wt. 4.7 I.D. 1.995 Set at 3815 Perf. 3812 To 3815

Gas Pay: From 3640 To 3816 L 3812 xG 0.682 -GL 2600 Bar.Press. 13.2

Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well single  
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 7-30-55 Packer 3620 Reservoir Temp. 90

## OBSERVED DATA

Tested Through (Prover) (Choke) (Orifice) Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						<u>700/700/700</u>				<u>24/12/72</u>
1.	<u>4</u>	<u>1.000</u>	<u>590</u>	<u>51.84</u>	<u>62</u>	<u>600</u>				<u>24</u>
2.	<u>4</u>	<u>1.000</u>	<u>572</u>	<u>42.25</u>	<u>61</u>	<u>600</u>				<u>24</u>
3.	<u>4</u>	<u>1.000</u>	<u>580</u>	<u>26.01</u>	<u>60</u>	<u>634</u>				<u>24</u>
4.	<u>4</u>	<u>1.000</u>	<u>555</u>	<u>18.49</u>	<u>56</u>	<u>612</u>				<u>24</u>
5.										

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w P_f}$	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.	<u>6.135</u>	<u>176.8</u>	<u>603.2</u>	<u>0.9981</u>	<u>0.7393</u>	<u>1.072</u>	<u>1090</u>
2.	<u>6.135</u>	<u>157.2</u>	<u>585.2</u>	<u>0.9990</u>	<u>0.7393</u>	<u>1.068</u>	<u>967</u>
3.	<u>6.135</u>	<u>124.2</u>	<u>593.2</u>	<u>1.0000</u>	<u>0.9393</u>	<u>1.072</u>	<u>768</u>
4.	<u>6.135</u>	<u>102.5</u>	<u>568.2</u>	<u>1.0059</u>	<u>0.9393</u>	<u>1.070</u>	<u>635</u>
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> 9.936 (1-e<sup>-S</sup>) 0.164

Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 713.2 P<sub>c</sub><sup>2</sup> 508.7

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.	<u>613.2</u>	<u>376.0</u>	<u>10.8</u>	<u>116.6</u>	<u>10.1</u>	<u>395.1</u>	<u>113.6</u>	<u>628.6</u>	<u>0.883</u>
2.	<u>613.2</u>	<u>376.0</u>	<u>9.6</u>	<u>92.2</u>	<u>15.1</u>	<u>391.1</u>	<u>117.6</u>	<u>625.4</u>	<u>0.877</u>
3.	<u>647.2</u>	<u>418.9</u>	<u>7.6</u>	<u>57.8</u>	<u>9.5</u>	<u>428.4</u>	<u>80.3</u>	<u>654.5</u>	<u>0.918</u>
4.	<u>655.2</u>	<u>429.3</u>	<u>6.3</u>	<u>39.7</u>	<u>6.5</u>	<u>435.8</u>	<u>72.9</u>	<u>660.2</u>	<u>0.986</u>
5.									

Absolute Potential: 4650 MCFPD; n 0.9898COMPANY Humble Oil & Refining CompanyADDRESS Box 2347, Hobbs, New MexicoAGENT and TITLE M. M. Ryzm District SuperintendentWITNESSED J. R. FrewCOMPANY 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.

$F_{pv}$  = 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  $P_w$  must be calculated by adding the pressure drop due to friction within the flow string to  $P_t$ .