

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Emmont Formation Queen County Lea  
Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 12-12-58  
Company Humble Oil & Refining Company Lease New Mexico State G Well No. 9  
Unit G Sec. 23 Twp. 21-S Rge. 36-E Purchaser El Paso Natural Gas  
Casing 5 1/2 Wt. 14# I.D. 5.012 Set at 3791 Perf. 3617 To 3674  
Tubing 2 Wt. 4.7 I.D. 1.995 Set at 3600 Perf. - To -  
Gas Pay: From 3617 To 3674 L 3600 xG .710\* -GL 2556 Bar.Press. 3.2  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single  
Date of Completion: 11-12-58 Packer - Single-Bradenhead-G. G. or G.O. Dual  
Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Prover) (~~Orifice~~) (~~Manometer~~)Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) ( <del>Orifice</del> ) Size	( <del>Orifice</del> ) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						1004		1005		72
1.	2	.250	338		47	939		988		3
2.	2	.375	383		45	930		972		3
3.	2	.500	357		42	870		942		3
4.	2	.625	333		41	773		900		3**
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.	1.4030		351.2	1.0127	.9193	1.049	481
2.	3.0691		396.2	1.0147	.9193	1.057	1199
3.	5.5233		370.2	1.0178	.9193	1.052	2013
4.	8.3552		346.2	1.0188	.9193	1.049	2842
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 59,200\*\*\* cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> - (1-e<sup>-S</sup>) -

Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid 0.710  
P<sub>c</sub> 1018.2 P<sub>c</sub> 1036.7

No.	P <sub>w</sub> P <sub>w</sub> ( <del>psia</del> )	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.	1001.2					1002.4	34.3		.9833
2.	985.2					970.8	86.1		.9676
3.	955.2					912.4	124.3		.9381
4.	913.2					833.9	202.8		.8968
5.									

Absolute Potential: 10,400 MCFPD; n 81  
COMPANY Humble Oil & Refining Company  
ADDRESS Box 2347, Hobbs, New Mexico  
AGENT and TITLE ORIGINAL District Superintendent  
WITNESSED SIGNED: R. R. ALWORTH  
COMPANY El Paso Natural Gas Company

## REMARKS

\* Assumed

\*\* Flared to atmosphere. Unable to obtain 24 hour point because choke froze up.

\*\*\* Lead Oil.

JRW/mcb

## 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  $P_t$ .