

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Blanco Mesaverde Formation Mesaverde County San Juan  
Initial After Workover Annual Special Date of Test 5-8-68  
Company Blackwood & Nichols Lease Northeast Blanco Well No. 9  
Unit N Sec. 12 Twp. 30N Rge. 8W Purchaser El Paso Natural Gas Company  
Casing 4 1/2" Wt. 10.50 I.D. 4.052 Set at 5453' Perf. 4844' To 5362'  
Tubing 2 3/8" Wt. 4.7 I.D. 1.995 Set at 5283' Perf. 5247' To 5253'  
Gas Pay: From 4844 To 5362 L 5362 xG .655 -GL 3512 Bar.Press. 11.5  
Producing Thru: Casing Recompletion Tubing X Type Well Single - Gas  
Date of Completion: 4-24-68 Packer 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) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						787		787		
1.		3/4"	275			275		712		3 Hrs
2.										
3.										
4.										
5.										

## FLOW CALCULATIONS

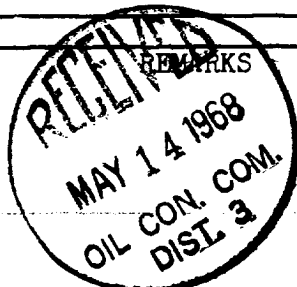
No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
1.	12.365		287				3549
2.							
3.							
4.							
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio  cf/bbl.  
Gravity of Liquid Hydrocarbons  deg.  
P<sub>c</sub>  (1-e<sup>-s</sup>)  
Specific Gravity Separator Gas   
Specific Gravity Flowing Fluid   
P<sub>c</sub> 799.5 P<sub>c</sub> 619

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.						524	115		.82
2.									
3.									
4.									
5.									

Absolute Potential: 12833 MCFPD; n .75  
COMPANY Blackwood & Nichols Company  
ADDRESS P. O. Box 1237, Durango, Colorado 81301  
AGENT and TITLE De Lasso Loos, Field Superintendent  
WITNESSED   
COMPANY



## 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  $P_t$ .