

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Ballard Formation Pictured Cliffs County Rio Arriba  
Initial I Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 12/30/56  
Company Western Natural Gas Company Lease Nordhaus-Federal Well No. 4  
Unit 0 Sec. 16 Twp. 25N Rge. 7W Purchaser El Paso Natural Gas Company  
Casing 2256 Wt. 15.5 I.D. 5.012 Set at 2265 Perf. 2190 To 2220  
Tubing 1" Wt. 1.70 I.D. 1.049 Set at 2225 Perf. 2009 To 2224  
Gas Pay: From 2190 To 2220 L 2009 xG 0.66 -GL 1326 Bar.Press. 12.0  
Producing Thru: Casing I Tubing \_\_\_\_\_ Type Well Single - Gas  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 12/17/56 Packer \_\_\_\_\_ Reservoir Temp. 93

## 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. $h_w$	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
1.		<u>3/4</u>	<u>236.5</u>		<u>55</u>	<u>638.3</u>		<u>636.3</u>		<u>3 Hrs.</u>
2.						<u>251.7</u>		<u>236.5</u>		
3.										
4.										
5.										

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w P_f}$	Pressure psia	Flow Temp. Factor $F_t$	Gravity Factor $F_g$	Compress. Factor $F_{pv}$	Rate of Flow Q-MCFPD @ 15.025 psia
1.	<u>14.1605</u>		<u>263.7</u>	<u>1.0048</u>	<u>0.9924</u>	<u>1.027</u>	<u>3589.3</u>
2.							
3.							
4.							
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
 $P_c$  \_\_\_\_\_  $(1-e^{-s})$   
Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
 $P_c$  \_\_\_\_\_  $P_c^2$  \_\_\_\_\_

No.	$P_w$ $P_t$ (psia)	$P_t^2$	$F_c Q$	$(F_c Q)^2$	$(F_c Q)^2 (1-e^{-s})$	$P_w^2$	$P_c^2 - P_w^2$	Cal. $P_w$	$\frac{P_w}{P_c}$
1.						<u>69.54</u>	<u>350.76</u>		<u>.407</u>
2.									
3.									
4.									
5.									

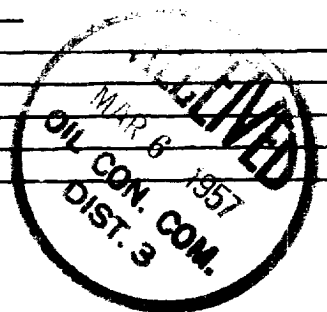
Absolute Potential: 4195.12 MCFPD; n 0.85COMPANY WESTERN NATURAL GAS COMPANYADDRESS 823 Midland Tower

AGENT and TITLE \_\_\_\_\_ Petroleum Engineer

WITNESSED \_\_\_\_\_

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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