

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Angels Peak Dakota Formation Dakota County San Juan  
Initial x Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 6-8-59  
Company Three States Nat. Gas Co. Lease Lodewick Well No. 3  
Unit M Sec. 18 Twp. 27N Rge. 9W Purchaser None  
Casing 5 1/2 Wt. 15.5 I.D. 4.950 Set at 7180 Perf. 7016 To 7125  
Tubing 2" Wt. 4.7 I.D. 1.995 Set at 7084 Perf. 7080 To 7084  
Gas Pay: From 7012 To 7162 L 7080 xG .687 -GL 4814 Bar.Press. 12.0  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Gas  
Date of Completion: 5-28-59 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) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI										
1.		<u>3/4</u>	<u>200</u>		<u>76</u>	<u>2010</u>		<u>2010</u>		<u>3 Hrs.</u>
2.						<u>200</u>	<u>76</u>	<u>590</u>		
3.										
4.										
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>12.3650</u>		<u>212</u>	<u>.9850</u>	<u>.9393</u>	<u>1.022</u>	<u>2.479</u>
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> 2022 P<sub>c</sub> 4088.4

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.									
2.						<u>362.4</u>	<u>3726.0</u>		<u>.298</u>
3.									
4.									
5.									

Absolute Potential: 2.657 MCFPD; n .75  
COMPANY Three States Natural Gas Company  
ADDRESS P. O. Box 67, Farmington, New Mexico  
AGENT and TITLE John Carothers John Carothers, Assistant District Supt.  
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.

$F_{pv}$  = 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  $P_t$ .

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