

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool South Blanco Formation Pictured Cliffs County Rio Arriba  
Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 6-8-59  
Company Caulkins Oil Company Lease Bresch Well No. PMD-224  
Unit A Sec. 13 Twp. 26N Rge. 7W Purchaser Southern Union Gas Company  
Casing 9 5/8" Wt. 40# I.D. 8.835 Set at 2997 Perf. 2716 To 2754  
Tubing 1 1/2" Wt. 2.4 I.D. 1.380 Set at 2709 Perf. 2709 To \_\_\_\_\_  
Gas Pay: From 2716 To 2754 L 2709 xG 660 -GL 1788 Bar.Press. 12#  
Producing Thru: Casing No Tubing Yes Type Well G.G. Dual  
Date of Completion: 5-19-59 Upper 4954 Single-Bradenhead-G. G. or G.O. Dual  
Packer Lower 5184 Reservoir Temp. \_\_\_\_\_

OBSERVED DATA

Tested Through ~~X 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.	
SI								
1.		3/4"	105		55°	597 105	55° 380	7 day S.I. 3 hr test
2.								
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.	14.1605		117	1.0048	.9535	1.013	1.608
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

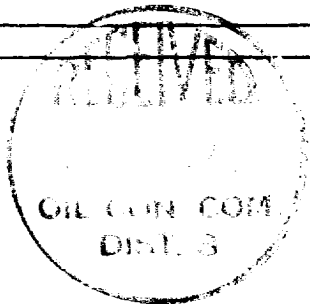
Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
P<sub>c</sub> \_\_\_\_\_ (1-e<sup>-s</sup>)  
Specific Gravity Separator Gas .660  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 609 P<sub>c</sub><sup>2</sup> 370,881

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.	392					153.664	217.217	392	
2.									
3.									
4.									
5.									

Absolute Potential: 2537 MCFPD; n (1.71)<sup>n</sup> = 1.5776

COMPANY Caulkins Oil Company  
ADDRESS Box 967, Farmington, New Mexico  
AGENT and TITLE Field Superintendent *Frank Bray*  
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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