

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Basin Formation Dakota County San Juan  
Initial XXX Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 4-12-62  
Company H. B. Rudman Lease Federal Well No. 21-1  
Unit 0 Sec. 21 Twp. 25N Rge. 9W Purchaser El Paso Natural Gas Company  
Casing 4-1/2" Wt. 10.5 I.D. \_\_\_\_\_ Set at 6570 Perf. 6366 To 6378  
Tubing 2" Wt. 4.7 I.D. \_\_\_\_\_ Set at 6350 Perf. --- To ---  
Gas Pay: From 6358 To 6380 L 6369 xG 0.70 -GL 4458 Bar.Press. 12 psi  
Producing Thru: Casing \_\_\_\_\_ Tubing XXX Type Well Single Gas  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 4-1-62 Packer None Reservoir Temp. 150° F

## 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						1932		1935		
1.		3/4	205	---	60	211	60	543	60	3 hrs
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.	12.365		217	1.000	0.9858	1.027	2552
2.							
3.							
4.							
5.							

## PRESSURE CALCULATIONS

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

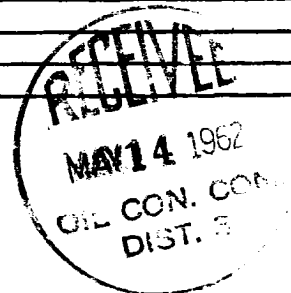
Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 1947 P<sub>c</sub><sup>2</sup> 3790.8

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.						308.0	3482.0		0.285
2.									
3.									
4.									
5.									

Absolute Potential: 2719 MCFPD; n 0.75

COMPANY M. B. Rudman  
ADDRESS \_\_\_\_\_  
AGENT and TITLE Gregory Merriam  
WITNESSED \_\_\_\_\_  
COMPANY Consulting Petroleum Engineer

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  $P_t$ .