

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 San Juan  
 Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test Dec. 5, 1957  
 Company Southern Union Gas Lease Nickson Well No. 5  
 Unit C Sec. 23 Twp. 26N Rge. 8W Purchaser Southern Union Gas Co.  
 Casing 5 1/2 Wt. 15.5 I.D. 4.950 Set at 2325 Perf. 2149 To 2270  
 Tubing 1 1/2 Wt. 1.74 I.D. .824 Set at 2278 Perf. 2248 To 2278  
 Gas Pay: From 2149 To 2270 L \_\_\_\_\_ xG \_\_\_\_\_ -GL \_\_\_\_\_ Bar.Press. 12.0  
 Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single Gas  
 Date of Completion: Sept. 25, 1957 Packer \_\_\_\_\_ Reservoir Temp. Single Gas

OBSERVED DATA

Tested Through (Prover) (Choke) (Nabors) 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.	
1.						663		660 1/2		71 days
2.		3/4"	96			100		96	60.9	3 hours
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.	12.3650		108	1.000	0.9463	1.011	1,277.6
2.							
3.							
4.							
5.							

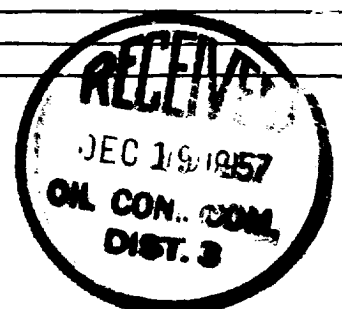
PRESSURE CALCULATIONS

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> 675 P<sub>c</sub> 455.6  
 P<sub>w</sub> 100 P<sub>w</sub> 10

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.						10	445.6		0.148
2.									
3.									
4.									
5.									

Absolute Potential: 1296 MCFPD; n 0.75  
 COMPANY Southern Union Gas  
 ADDRESS Box 815, Farmington, N.M.  
 AGENT and TITLE Tom Fenne  
 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  $P_t$ .

