

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Basin Dakota Formation Dakota County San Juan  
 Initial XX Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 11-10-64  
 Company Southern Union Production Co. Lease Richardson Well No. 3  
 Unit N Sec. 2 Twp. 27-N Rge. 13-W Purchaser El Paso Natural Gas Company  
 Casing 4-1/2 Wt. 10.5 I.D. 4.052 Set at 6285 Perf. 6047 To 6198  
 Tubing 1-1/2 Wt. 2.90 I.D. 1.610 Set at 6156 Perf. 6146 To 6156  
 Gas Pay: From 6047 To 6198 L 6146 xG .655 -GL \_\_\_\_\_ Bar.Press. 12.0  
 Producing Thru: Casing \_\_\_\_\_ Tubing XX Type Well Single Gas  
 Single-Bradenhead-G. G. or G.O. Dual \_\_\_\_\_  
 Date of Completion: 11-3-64 Packer \_\_\_\_\_ Reservoir Temp. \_\_\_\_\_

OBSERVED DATA

Tested Through (Brook) (Choke) (Master) 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						1844		1841		7 days
1.	2"	3/4	321			321	68	1317		3 hrs.
2.										
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		333	.9924	.9571	1.032	14036
2.							
3.							
4.							
5.							

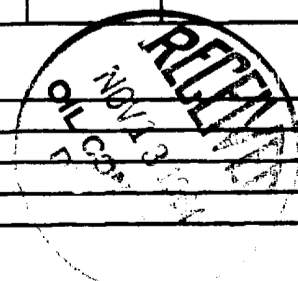
PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl. Specific Gravity Separator Gas \_\_\_\_\_  
 Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg. Specific Gravity Flowing Fluid \_\_\_\_\_  
 F<sub>c</sub> \_\_\_\_\_ (1-e<sup>-S</sup>) P<sub>c</sub> 1856 P<sub>c</sub> 3444736

No.	$\frac{P_w}{P_t}$ (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	$\frac{(F_c Q)^2}{(1-e^{-S})}$	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>	$\frac{P_w}{P_c}$
1.						1766241	1678495		.716
2.									
3.									
4.									
5.									

Absolute Potential: 6920 MCFPD; n .75

COMPANY Southern Union Production Company Original Signed By \_\_\_\_\_  
 ADDRESS P. O. Box 808 - Farmington, New Mexico VERNE ROCKHOLD  
 AGENT and TITLE Verne Rockhold - Jr. Engineer  
 WITNESSED Herman McAnally  
 COMPANY El Paso Natural Gas Company



- REMARKS
- cc: (3) New Mexico O.C.C.
  - cc: (1) Mr. Paul J. Clote
  - cc: (1) El Paso Natural Gas Proration Dept., P.O. Box 1492, El Paso, Texas
  - cc: (1) Mr. H. L. Kindricks, Box 990 - Farmington, New Mexico
  - cc: (1) Pan American Petroleum Corp. Box 480, Farmington, N.M.
  - cc: (1) File

## 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  $P_t$ .