

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Santa Sabota Formation Sabota County San Juan  
Initial 22 Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 1-6-65  
Company Southern Union Production Co. Lease Federal Mining Well No. 1  
Unit 8 Sec. 22 Twp. 30-N Rge. 20W Purchaser El Paso Natural Gas Company  
Casing 5-1/2 Wt. 25.0 I.D. 4.160 Set at 7140 Perf. 7107 To 7124  
Tubing 3-1/2 Wt. 8.75 I.D. 2.630 Set at 7000 Perf. 6980 To 7000  
Gas Pay: From 7107 To 7124 L 7000 xG .700 -GL 1007 Bar.Press. 12.0  
Producing Thru: Casing \_\_\_\_\_ Tubing 22 Type Well Gas, Gas, Dual  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 12-10-64 Packer 6990 Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Pressure) (Choke) (Pressure) Type Taps \_\_\_\_\_

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						<u>194</u>				<u>27 days</u>
1.	<u>2"</u>	<u>3/4"</u>	<u>213</u>		<u>68°</u>	<u>213</u>	<u>68°</u>			<u>1 hr.</u>
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.	<u>12.300</u>		<u>213</u>	<u>.998</u>	<u>.998</u>	<u>1.000</u>	<u>800</u>
2.							
3.							
4.							
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> 14.16 (1-e<sup>-s</sup>) .300  
Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 1970 P<sub>c</sub> 190570

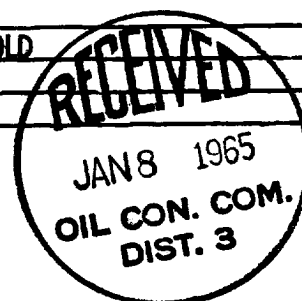
No.	P <sub>w</sub> P <sub>t</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> )	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup>	Cal. P <sub>w</sub>	P <sub>w</sub> P <sub>c</sub>
1.	<u>213</u>	<u>45369</u>	<u>12.300</u>	<u>151.29</u>	<u>151.29</u>	<u>45369</u>	<u>389336</u>	<u>705</u>	<u>.307</u>
2.									
3.									
4.									
5.									

Absolute Potential: 3000 MCFPD; n .75

COMPANY Southern Union Production Company  
ADDRESS P. O. Box 808 - Farmington, New Mexico  
AGENT and TITLE Verne Rockhold - Jr. Engineer  
WITNESSED El Paso Natural Gas Company  
COMPANY El Paso Natural Gas Company

Original Signed By  
VERNE ROCKHOLD

REMARKS  
(1) San Juan Oil Conservation Commission  
(1) Mr. Paul J. Glote  
(1) El Paso Natural Gas Production Dept., P.O. Box 1400, El Paso, Texas  
(1) Mr. H. L. Kinkaid, Box 990, Farmington, New Mexico  
(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.
- $F_{pv}$  = 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  $P_t$ .