

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool BASIN Formation DAKOTA County SAN JUAN  
Initial XX Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 12-29-61  
Company SOUTHERN UNION PRODUCTION CO. Lease ZACHRY Well No. 16  
Unit H Sec. 33 35 Twp. 29-N Rge. 10-W Purchaser Southern Union Gas Co.  
Casing 4 1/2 Wt. 10.5 I.D. 4.052 Set at 6540 Perf. 6326 To 6522  
Tubing 2 3/8 Wt. 4.70 I.D. 1.995 Set at 6356 Perf. 6350 To 6356  
Gas Pay: From 6326 To 6522 L 6350 xG .700 -GL 4445 Bar.Press. 12.0  
Producing Thru: Casing \_\_\_\_\_ Tubing XX Type Well Single - Gas  
Single-Bradenhead-G. G. or G.O. Dual \_\_\_\_\_  
Date of Completion: 12-24-61 Packer \_\_\_\_\_ Reservoir Temp. \_\_\_\_\_

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) \_\_\_\_\_ Type Taps \_\_\_\_\_

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) <del>(DOVER)</del> Size	(Choke) <del>(DOVER)</del> Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						<u>2010</u>		<u>2011</u>		<u>7 days</u>
1.		<u>3/4</u>	<u>327</u>		<u>67</u>	<u>327</u>		<u>1295</u>		<u>3 hr.</u>
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.	<u>12.3650</u>		<u>339</u>	<u>.9933</u>	<u>.9258</u>	<u>1.038</u>	<u>4001</u>
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

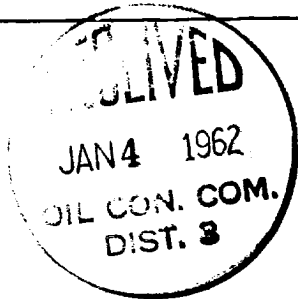
Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> \_\_\_\_\_ (1-e<sup>-s</sup>)  
Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 2023 P<sub>c</sub><sup>2</sup> 4092.5

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>1708.2</u>	<u>2384.3</u>		<u>.646</u>
2.									
3.									
4.									
5.									

Absolute Potential: 5840 MCFPD; n .75

COMPANY Southern Union Production Co.  
ADDRESS Box 808- Farmington, New Mexico  
AGENT and TITLE L. S. Muennink - Production Supt. Original Signed By \_\_\_\_\_  
WITNESSED V. A. Ripper L. S. MUENNINK  
COMPANY Southern Union Production Co.

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  $P_t$ .