

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Angel Peak Extension Formation Dakota County San Juan  
Initial XXX Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 9/14/60  
Company Astec Oil and Gas Co. Lease McClanahan Well No. 20-D  
Unit H Sec. 13 Twp. 28N Rge. 10W Purchaser Southern Union Gas Company  
Casing 4 1/2" Wt. 9.5 I.D. 4.090 Set at 6408 ft. Perf. 6230 To 6326  
Tubing 2 3/8 Wt. 4.7 I.D. 1.995 Set at 6178 ft. Perf. Pin Collared To \_\_\_\_\_  
Gas Pay: From 6230 To 6326 L 6178 xG 0.70 (R) -GL 4325 Bar.Press. 12  
Producing Thru: Casing \_\_\_\_\_ Tubing XI Type Well Single  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 9/7/60 Packer \_\_\_\_\_ Reservoir Temp. 130

## OBSERVED DATA

Tested Through (~~14600~~) (Choke) (~~N800~~) 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										
1.		<u>0.750</u>				<u>2035</u> <u>456</u>	<u>60(R)</u>	<u>2035</u> <u>1014</u>		<u>7 days</u> <u>3 hrs.</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>12.365</u>		<u>468</u>	<u>1.000</u>	<u>0.9608</u>	<u>1.055</u>	<u>5866</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> 2047 P<sub>c</sub><sup>2</sup> 4,190,209

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>1026</u>					<u>1,052,676</u>	<u>3,137,533</u>		
2.									
3.									
4.									
5.									

Absolute Potential: 7289 MCFPD; n 0.75

COMPANY Astec Oil and Gas Company

ADDRESS Drawer 570, Farmington, New Mexico

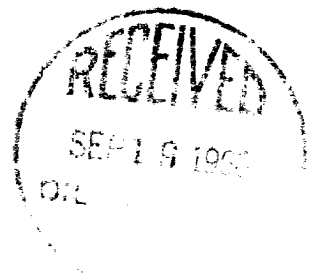
AGENT and TITLE

L. M. Stevens, Engineer

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  $P_t$ .

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