

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Blanco Formation Mesa Verde County San Juan  
Initial XX Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 7/29/59  
Company Astec Oil and Gas Company Lease Richardson Well No. 5  
Unit G Sec. 21 Twp. 31-N Rge. 12-W Purchaser \_\_\_\_\_  
Casing 7 Wt. 20 & 23 I.D. 6.456 Set at 5186 Perf. 4876 To 5155  
Tubing 2 3/8 Wt. 4.7 I.D. 1.995 Set at 5116 Perf. open ended To -----  
Gas Pay: From 4876 To 5155 L \_\_\_\_\_ xG \_\_\_\_\_ -GL \_\_\_\_\_ Bar.Press. \_\_\_\_\_  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single - Gas  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 7-29-59 Packer \_\_\_\_\_ Reservoir Temp. \_\_\_\_\_  
TS - 5186  
PS - 5159  
RDS - 6115

## OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Restrictor) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						<u>955</u>		<u>1015</u>		<u>7 - days</u>
1.		<u>.750</u>	<u>168</u>			<u>168</u>	<u>75</u>	<u>137</u>		<u>3 - hours</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>180</u>	<u>.9859</u>	<u>.9608</u>	<u>1.015</u>	<u>2110</u>
2.							
3.							
4.							
5.							

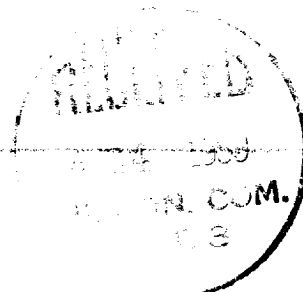
## PRESSURE CALCULATIONS

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> 1027 P<sub>c</sub><sup>2</sup> 1,054,729

No.	P <sub>w</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>149</u>					<u>201.64</u>	<u>351,124</u>		
2.									
3.									
4.									
5.									

Absolute Potential: 2510 MCFPD; n .75  
COMPANY Astec Oil and Gas Company  
ADDRESS Box # 786, Farmington, New Mexico ORIGINAL SIGNED BY D. K. BRYANT  
AGENT and TITLE D. K. Bryant, Production In. Insp.  
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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