

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Angels Peak Dakota Formation Dakota County San Juan

Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 10-21-59

Company Pan American Petroleum Corporation Lease Kutz Deen Test "D" Well No. 1

Unit A Sec. 27 Twp. 28N Rge. 10W Purchaser Southern Union Gas Company

Casing 4-1/2 Wt. 9.5 I.D. 4.090 Set at 6575 Perf. 6438 To (Abrasi jet circumferential out)

Tubing 2-3/8 Wt. 4.7 I.D. 1.995 Set at 6417 Perf. open ended; no perforations To \_\_\_\_\_

Gas Pay: From 6415 To 6468 L 6417 xG 0.70 (est.) -GL 4492 Bar.Press. 12

Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single Gas

Date of Completion: 10-8-59 Packer None Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. 150° F

OBSERVED DATA

Tested Through (200000) (Choke) (200000) Type Taps \_\_\_\_\_

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	( <del>200000</del> ) (Line) Size	(Choke) ( <del>200000</del> ) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI	Shut in 13 days					1988		2000		
1.	2"	0.75 in.	392		60° (est.)	565	—	1091	—	3 hours
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.	12.365		404	1.000	0.9258	1.050	4856
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> 2000 P<sub>c</sub><sup>2</sup> 4,000,000

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>	(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>	$\frac{P_w}{P_c}$
1.						1,216,609	2,783,391		
2.									
3.									
4.									
5.									

Absolute Potential: 6374 MCFPD; n 0.75

COMPANY Pan American Petroleum Corporation

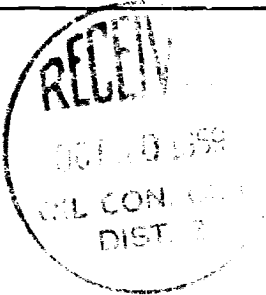
ADDRESS Box 487, Farmington, New Mexico

AGENT and TITLE R. M. Bauer, Jr., Area Engineer *RMB*

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<sub>w</sub> - Static wellhead working pressure as determined at the end of flow period.  
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P<sub>t</sub> = 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  $P_t$ .

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**AZTEC DISTRICT OFFICE**

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