

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Tapacito Pictured Cliffs Formation Pictured Cliff County Rio Arriba
Initial - Annual - Special - Date of Test Sept. 6, 1961
Company Southern Union Production Co. Lease McCroden Well No. 2-A
Unit 0 Sec. 9 Twp. 25N Rge. 3W Purchaser Southern Union Gas Co.
Casing 4 1/2" Wt. 9.50# I.D. 4.090 Set at 3815 Perf. 3714 To 3744
Tubing 1 1/2" Wt. 2.90# I.D. 1.610 Set at 3639 Perf. 3635 To 3639
Gas Pay: From 3714 To 3744 L - xG - GL - Bar.Press. 12.0
Producing Thru: Casing - Tubing X Type Well Single-Gas
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: August 28, 1961 Packer - Reservoir Temp. -

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps -

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI										
1.		<u>3/4"</u>	<u>237</u>		<u>54.0</u>	<u>747</u>		<u>747</u>		<u>9 days</u>
2.						<u>733</u>				<u>3 hours</u>
3.										
4.										
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	<u>12.3650</u>		<u>249</u>	<u>1.0058</u>	<u>0.9463</u>	<u>1.029</u>	<u>3.014</u>
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

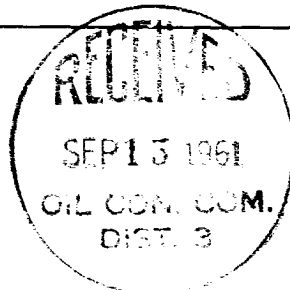
Gas Liquid Hydrocarbon Ratio - cf/bbl.
Gravity of Liquid Hydrocarbons - deg.
F_c - (1-e^{-s})
Specific Gravity Separator Gas -
Specific Gravity Flowing Fluid -
P_c 759 P_c² 576
P_w 745 P_w² 555

No.	P _w P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w / P _c
1.									
2.									
3.									
4.									
5.									

Absolute Potential: 50,000 MCFPD; n 0.85

COMPANY Southern Union Production Company
ADDRESS P. O. Box 808 - Farmington, New Mexico
AGENT and TITLE Thomas E. Fenno, Assistant Drilling Superintendent
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 .