

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Tapacito Formation Pictured Cliffs County Rio Arriba
Initial X Annual _____ Special _____ Date of Test June 1, 1959
Company Southern Union Gas Company Lease McGrodan Well No. 2-B
Unit I Sec. 4 Twp. 25N Rge. 3W Purchaser Southern Union Gas Company
Casing 5 1/2" Wt. 15.5# I.D. 4.995 Set at 3928 Perf. 3826 To 3876
Tubing 2" Wt. 4.7# I.D. 1.995 Set at 3840 Perf. 3820 To 3840
Gas Pay: From 3826 To 3876 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 May 21, 1959 Packer _____ Reservoir Temp. _____

OBSERVED DATA

Tested Through 1 1/2" (Choke) 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						932		931		7 Days
1.		3/4"	406		60	406	60	825		3 hours
2.										
3.										
4.										
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	12.3650		418	1.000	.9463	1.047	5.121
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
T_c _____ (1-e^{-s})
Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 944 P_c² 891
P_w 837 P_w² 701

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.						701	190		
2.									
3.									
4.									
5.									

Absolute Potential: 18,999 MCFPD; n 0.85
COMPANY SOUTHERN UNION GAS COMPANY
ADDRESS Box 815 Farmington, New Mexico
AGENT and TITLE Thomas E. Fenno, 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} - 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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