

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Ballard Formation Pictured Cliffs County Rio Arriba
Initial X Annual _____ Special _____ Date of Test 12/29/56
Company Western Natural Gas Company Lease Nordhaus-Federal Well No. 1
Unit N Sec. 18 Twp. 25N Rge. 7W Purchaser El Paso Natural Gas Company
Casing 2290 Wt. 14 I.D. 5.012 Set at 2290 Perf. 2166 To 2232
Tubing 1" Wt. 1.70 I.D. 1.049 Set at 2238 Perf. 2122 To 2238
Gas Pay: From 2163 To 2238 L 2122 xG 0.66 -GL 1401 Bar.Press. 13.2 psi
Producing Thru: Casing X Tubing _____ Type Well Single - Gas
Single-Bradenhead-G. G. or G.O. Dual _____
Date of Completion: 12/5/56 Packer None Reservoir Temp. 92°

OBSERVED DATA

Tested Through (Prover) (Choke) (None) 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.	
1.		<u>3/4</u>	<u>369.3</u>		<u>54</u>	<u>648.2</u>		<u>648.2</u>		<u>24 Day S.I.</u>
2.						<u>382.3(Pv)</u>		<u>369.3</u>		<u>3 Hr.</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>14.1605</u>		<u>381.3</u>	<u>1.0058</u>	<u>0.9924</u>	<u>1.04</u>	<u>5605.02</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 660.2 P_c 435.86

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.						<u>155.55</u>	<u>280.32</u>		<u>.597</u>
2.									
3.									
4.									
5.									

Absolute Potential: 8157.1 MCFPD; n .85
COMPANY WESTERN NATURAL GAS COMPANY
ADDRESS 823 Midland Tower
AGENT and TITLE Patroleum 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_c .

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