

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queen County Lee

Initial Annual Special X Date of Test May 24, 1956

Company Aztec Oil & Gas Company Lease Williams Well No. 2

Unit I Sec. 33 Twp. 19 Rge. 37 Purchaser Southern Union Gas Company

Casing 5 1/2 Wt. 17# I.D. 4.892 Set at 3460' Perf. 3538 To 3547

Tubing 2" Wt. 4.5 I.D. 1.995 Set at 3547 Perf. Open Hole To

Gas Pay: From 3575 To 3610 L xG 0.668 -GL Bar.Press. 13.2

Producing Thru: Casing Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 11-19-52 Packer None Reservoir Temp.

OBSERVED DATA

Tested Through (<u>Prover</u>) (<u>Choke</u>) (<u>Meter</u>)						Type Taps <u>Flange</u>				
Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(<u>Prover</u>) (Line) Size	(<u>Choke</u>) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
1.	4"	.750"	515	8"	72	807		807		72
2.	4"	.750"	525	24"	76	764		765		24
3.	4"	.750"	540	45"	78	709		711		24
4.	4"	.750"	510	81"	85	627		662		24
5.						565		591		24

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.	3.435	64.98	528.2	.9887	.9477	1.050	220
2.	3.435	113.63	538.2	.9850	.9477	1.053	384
3.	3.435	157.75	553.2	.9831	.9477	1.053	505
4.	3.435	205.82	523.2	.9768	.9477	1.045	684
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.

Gravity of Liquid Hydrocarbons deg.

$c = (1-e^{-s})$

Specific Gravity Separator Gas .668

Specific Gravity Flowing Fluid

P_c 820.2 P_c² 672.7

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.	778.2					605.6	67.1	778.2	.949
2.	724.2					524.5	148.2	724.2	.883
3.	675.2					455.9	216.8	675.2	.823
4.	604.2					365.1	307.6	604.2	.737
5.									

Absolute Potential: 1,250 MCFPD; n .763

COMPANY Aztec Oil & Gas Company

ADDRESS Box 847, Hobbs, New Mexico

AGENT and TITLE John M. Cal Petroleum Engineer

WITNESSED Tested by Mr. Sam Hardy

COMPANY Southern Union Gas Co.

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 .