

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Todd San Andres Formation San Andres County Roosevelt
Initial X Annual _____ Special _____ Date of Test January 6, 1965
Company Olen F. Featherstone Lease Federal H-27 Well No. 1
Unit H Sec. 27 Twp. 7 S Rge. 35 E Purchaser None
Casing 4 1/2 Wt. 9.5 I.D. 4.090 Set at 4257 Perf. 4088 To 4224
Tubing 2 Wt. 4.70 I.D. 1.995 Set at 4044 Perf. Open end To _____
Gas Pay: From 4088 To 4224 L 4044 xG .800 -GL 3235 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 12/13/64 Packer 4044 Reservoir Temp. 100 Assumed

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						1065		Packer		72
1.	2 X 3/16	1/8/64	1046		67	1046				1
2.	2 X 3/8	15/64	486		48	1016				1
3.	2 X 3/8	18/64	705		57	960				1
4.	2 X 1/2	22/64	507		49	912				1
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.	.7851		1059.2	.9933	.8660	1.191	852
2.	3.0691		499.2	1.0117	.8660	1.100	1476
3.	3.0691		718.2	1.0029	.8660	1.133	2169
4.	5.5233		520.2	1.0107	.8660	1.094	2751
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio None cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
 P_c 9.936 $(1-e^{-S})$ 0.200

Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
 P_c 1078.2 P_c^2 1162.5

No.	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	$\frac{P_w}{P_c}$
1.	1059.2	1121.9	8.465	71.66	14.3	1136.2	26.3	1058.9	.99
2.	1029.2	1059.3	14.666	215.09	43.0	1102.3	60.2	1049.9	.97
3.	973.2	947.1	21.551	464.45	92.9	1040.0	122.5	1019.8	.95
4.	925.2	856.0	27.334	747.15	149.4	1005.4	157.1	1002.7	.93
5.									

Absolute Potential: 10,200 MCFPD; n .65
COMPANY Olen F. Featherstone
ADDRESS 236 Petroleum Bldg., Roswell, New Mexico
AGENT and TITLE Independent Gas Tester
WITNESSED Rex Alcorn & Howard Rickey
COMPANY Olen F. Featherstone

REMARKS

Producing small volume water on rates 3 and 4.

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 .