

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Sawyer Formation San Andres County Lea
Initial x Annual _____ Special _____ Date of Test March 30, 1961
Company Alamo Corporation Lease Bell Federal Well No. 1
Unit G Sec. 20 Twp. 9S Rge. 38E Purchaser None - Shut-in
Casing 9 5/8" 53 1/2#/ft 8.535" 4295 4.902'-08, 4910'-14'
5 1/2" 14#/ft I.D. 5.012" Set at 5098' Perf. 4.926-36, To
Tubing 2" 4.7#/ft I.D. 1.99" Set at 4,580 Perf. None To
Gas Pay: From 4902" To 4,971' L 4936 1/2' xG 0.769 -GL 3796# Bar.Press. 13.2psia
Producing Thru: Casing _____ Tubing x Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 3-30-61 Packer 4,500' Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) _____ Type Taps None

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			1,290		58	1,290	58	None		72 hr.
1.	2"	0.218	643		52	643	52	"		12 hr.
2.	2"	0.187	709		49	709	49	"		2 1/2 hr.
3.	2"	0.125	978		62	978	62	"		11 hr.
4.	2"	0.0625	1,161			1,161	71	"		12 hr.
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.	1.0834		656.2	1.0078	.8833	1.064	673.4
2.	.7851		722.2	1.0107	.8833	1.069	541.1
3.	.3418		991.2	.9981	.8833	1.089	325.3
4.	.0827		1174.2	.9896	.8833	1.098	93.2
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 0 cf/bbl.
Gravity of Liquid Hydrocarbons 0 deg.
P_c 9.936 (1-e^{-s}) 0.230
Specific Gravity Separator Gas 0.769
Specific Gravity Flowing Fluid 0
P_c 1303.2 P_c 1698.3

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.	656.2	430.6	6.691	44.8	10.3	440.9	1257.4	664.0	51.0
2.	722.2	521.6	5.376	28.9	6.6	528.2	1170.1	726.8	55.8
3.	991.2	982.5	3.232	10.4	2.4	984.9	713.4	992.4	76.2
4.	1,174.2	1,378.7	0.926	0.9	0.2	1,378.9	319.4	1174.3	90.1
5.									

Absolute Potential: 909 MCFPD; n 1.000

COMPANY Denton Oil Company
ADDRESS 5238 34th Street, Lubbock, Texas
AGENT and TITLE G. J. Jordan, Jr., Gas Engineer
WITNESSED _____
COMPANY _____

REMARKS

*Nitrogen & carbon dioxide content

9.49% x 9.44%

Note: Decreasing flow rate used to test this well as previous attempt to test by increasing flow method failed due to excess liquid accumulation in well bore.

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 .