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 **XXX**   Annual ___   Special ___   Date of Test **May 9, 1960**

Company **Alamo Corporation**   Lease **Ohio-Federal**   Well No. **1**

Unit **NE/4** Sec. **30** Twp. **9S** Rge. **38E** Purchaser **(No line to field)**

Casing **4 1/2"** Wt. **9 1/2#** I.D. **4.09** Set at **4972'** Perf. **4897'** To **4972'**

Tubing **2 3/8"** Wt. **4.7#** I.D. **1.995** Set at ___ Perf. ___ To ___

Gas Pay: From **4897'** To **4972'** L **4934.5** xG **0.793** =GL **3913** Bar.Press. **13.2**

Producing Thru: Casing ___ Tubing **XXX** Type Well **Single**
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: **4-29-60** Packer **None** Reservoir Temp. ___

OBSERVED DATA

Tested Through (Prover) (~~Choke~~) (~~Meter~~)   Type Taps ___

No.	(Prover) (Line) Size	(~~Choke~~) (Orifice) Size	Flow Data Press. psig	Diff. h_w	Temp. °F.	Tubing Data Press. psig	Temp. °F.	Casing Data Press. psig	Temp. °F.	Duration of Flow Hr.
SI			1389		66	1389	66			SI 72 hrs.
1.	2"	.0625	1341		70	1341	70			1 hr. 35 min.
2.	2"	.1250	1218		70	1218	70			3 hr. 45 min.
3.	2"	.250	988		76	988	76			2 hr. 0 min.
4.	2"	.3175	788		78	788	78			1 hr. 45 min.
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.	0.0827 MCF/D		1354.2	.9905	.8687 .8698	1.111 1.128	122 118.5
2.	0.3418 MCF/D		1231.2	.9905	.8687	1.101 1.236	505 444.5
3.	1.4030 MCF/D		1001.2	.9850	.8687	1.079 1168	1523 1403.6
4.	2.1577 MCF/D		801.2	.9831	.8687	1.061 1130	1568 1804
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **80,938** cf/bbl.
Gravity of Liquid Hydrocarbons **31 API** deg.
F_c ___ (1-e^{-s}) ___

Specific Gravity Separator Gas **0.793**
Specific Gravity Flowing Fluid **.**
P_c **1402** P_c^2 **1966**

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	$\frac{P_w}{P_c}$
1.	1354.2	1833				1833 x 133			.66
2.	1231.2	1515				1515 8 451			.73
3.	1001.2	1002				1002 964			.714
4.	801.2	642				642 .9 1324.2			.71
5.									

Absolute Potential: **2,300** MCFPD; n **0.99639**

COMPANY **Denton Oil Company**
ADDRESS **5238 34th Street, Lubbock, Texas**
AGENT and TITLE **Wilbur R. Phillips, Gas Engineer**
WITNESSED **Martin S. Nichols**
COMPANY **Alamo Corporation, 2010 34th Street, Lubbock, Texas**

REMARKS

Well produced 16 bbls. Oil during test, gas-liquid ratio calculated on third rate of flow. Higher rates of flow used on third and fourth stabilization points to clear well tubing of liquid.

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.