NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Wildcat** Formation **Pennsylvanian** County **Lea**

Initial **X** Annual _____ Special _____ Date of Test **1-20-58**

Company **The Texas Company** Lease **Audie Richards** Well No. **1**

Unit **P** Sec. **25** Twp. **20-S** Rge. **32-E** Purchaser **None**

Casing **7"** Wt. **29#** I.D. **6.184** Set at **14,945** Perf. **12,909** To **12,916**

Tubing **2 3/8"** Wt. **4.70#** I.D. **1.99** Set at **12,908** Perf. **12,908** To **12,911**

Gas Pay: From **12908** To **12916** L **12908** xG **.680** =GL **8777** Bar.Press. **13.2**

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

Date of Completion: **1-20-58** Packer **12,850** Reservoir Temp. _____

OBSERVED DATA

Tested Through **Orifice Well Tester** (~~Prover~~) (~~Choke~~) (~~Meter~~)

Type Taps _____

(Hg. = Mercury)

No.	OWT (~~Prover~~) (~~Line~~) Size	Flow Data (~~Choke~~) (Orifice) Size	Press. psig	Diff. Ins. ~~Hg.~~ h_w	Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						4225				91
1.	3	1.50		12"	52°	3310	54°			3
2.	3	2.00		14"	67°	2434	58°			3
3.	3	2.00		18"	50°	2028	51°			3
4.	3	2.00		24"	52°	1595	50°			3
5.	3	2.00		20"	49°	1681	61°			24

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	MCF/Day $\sqrt{h_w p_f}$	Pressure Ins. Hg. ~~psia~~	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. ~~Factor PB~~ F_{pv} 14.65 ~~15.025~~	Rate of Flow Q-MCFPD @ 15.025 psia
1.		728	12"	1.0078	.9427	.9750	674
2.		1567	14"	.9933	.9427	.9750	1,431
3.		1821	18"	1.0098	.9427	.9750	1,690
4.		2152	24"	1.0078	.9427	.9750	1,993
5.		1931	20"	1.0107	.9427	.9750	1,794

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **37,375** cf/bbl.
Gravity of Liquid Hydrocarbons **47.8** deg.
F_c **5.866** $(1-e^{-s})$ **.604**

Specific Gravity Separator Gas **.680**
Specific Gravity Flowing Fluid _____
P_c **4238.2** P_c^2 **17,962.3**

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$(F_cQ)^2$ $(1-e^{-s})$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	3323.2	11043.7	3.95	15.60	9.42	11,053	6,909	3324.6	.78
2.	2447.2	5988.8	8.39	70.39	42.52	6,031	11,931	2455.8	.58
3.	2041.2	4166.5	9.91	98.21	59.32	4,226	13,736	2055.7	.49
4.	1608.2	2586.3	11.69	136.66	82.54	2,669	15,293	1633.7	.38
5.	1694.2	2870.3	10.52	110.67	66.84	2,937	15,025	1713.8	.40

Absolute Potential: **2,100** MCFPD; n **1.000**

COMPANY **THE TEXAS COMPANY**
ADDRESS **BOX 1270, MIDLAND, TEXAS**
AGENT and TITLE **L. I. BAKER, DISTRICT GAS MAN** L.I.Baker
WITNESSED **H. H. KERBY AND J. O. WHITLING**
COMPANY **EL PASO NATURAL GAS COMPANY**

REMARKS

See letter attached. O.W.T. not approved testing Depth.

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.