NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

1956 OCT 8 PM 2:22

ELVIS A. UTZ
ENGINEER

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queen County Lea

Initial X Annual ____ Special ____ Date of Test 5-31-56 6-8-56

Company The Texas Company Lease H. T. Mattern Well No. 5

Unit L Sec. 29 Twp. 19-S Rge. 37-E Purchaser Permian Basin Pipe Line Co.

Casing 5½ Wt. 14# I.D. 5.012 Set at 3470 Perf. Open Hole To ____

Tubing 2 3/8 Wt. 4.70 I.D. 1.995 Set at 3506 Perf. 3502 To 3505

Gas Pay: From 3470 To 3639 L 3502 xG .667 =GL 2336 Bar.Press. ____

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

Date of Completion: 7-27-54 Packer None Reservoir Temp. ____

CO_2= 1.65% N_2= 1.29%

OBSERVED DATA

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

No.	Flow Data (~~Prover~~) (Line) Size	(~~Choke~~) (Orifice) Size	Press. psig	Diff. 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						1010.1		1011.8		72 1/4
1.	4	1.750	454.5	15.0	91	810.6		838.2		24 1/3
2.	4	1.750	454.0	20.1	93	740.2		782.5		24
3.	4	1.750	456.5	25.4	95	669.8		727.9		24
4.	4	1.750	463.4	36.3	78	550.0		691.7		24
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.	21.69	83.76	467.7	.9715	.9496	1.040	1,743
2.	21.69	98.91	467.2	.9697	.9496	1.040	2,013
3.	21.69	109.5	471.7	.9680	.9496	1.040	2,271
4.	21.69	131.5	476.6	.9831	.9498	1.046	2,786
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl. Specific Gravity Separator Gas ____

Gravity of Liquid Hydrocarbons ____ deg. Specific Gravity Flowing Fluid ____

P_c 1025.8 P_c^2 1050.6

F_c ____ $(1-e^{-s})$ ____

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.	851.4					724.9	325.7		.83
2.	795.7					633.1	417.5		.78
3.	741.1					549.2	501.4		.72
4.	704.9					496.9	553.7		.69
5.									

Absolute Potential: 3,630 MCFPD; n .63

COMPANY The Texas Company

ADDRESS Box 1270, Midland, Texas

AGENT and TITLE L. I. Baker, District Gas Man

WITNESSED H. E. Barrett

COMPANY Permian Basin Pipe Line Company

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_{tt} = 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.