NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC
1956 SEP 21 AM 9:56

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Form C-122
Revised 12-1-55

Pool __Eunice__ Formation __Queen__ County __Lea__

Initial __X__ Annual _____ Special _____ Date of Test __May 31, 1956__ __June 6, 1956__

Company __The Texas Company__ Lease __State of N. M. "Q"__ Well No. __2__

Unit __M__ Sec. __19__ Twp. __19-S__ Rge. __37-E__ Purchaser __Permian Basin Pipe Line Co.__

Casing __4 1/2__ Wt. __9.54__ I.D. __4.090__ Set at __3860__ Perf. __3422__ To __3560__

Tubing __2 3/8__ Wt. __4.70__ I.D. __1.995__ Set at __3836__ Perf. _____ To _____

Gas Pay: From __3422__ To __3560__ L __3422__ xG __.668__ =GL __2286__ Bar.Press. __13.2__

Producing Thru: Casing __X__ Tubing _____ Type Well __Dual - G. O.__
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: __1-29-55__ Packer __3836__ Reservoir Temp. _____

CO_2 __1.71%__ N_2 __1.61%__

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter)   Type Taps __Pipe__

No.	(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								950.0		72½
1.	4	2.00	455.0	6.7	80			862.1		24
2.	4	2.00	453.5	15.5	81			801.7		24
3.	4	2.00	460.9	27.2	82			711.3		24
4.	4	2.00	470.0	29.7	83			672.9		23½
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.	29.92	63.62	464.2	.9786	.9463	1.043	1,844
2.	29.92	84.05	466.7	.9804	.9463	1.043	2,433
3.	29.92	113.6	474.1	.9795	.9463	1.044	3,289
4.	29.92	119.8	483.2	.9786	.9463	1.045	3,469
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c __3.912__ $(1-e^{-s})$ __0.146__

Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c __963.2__ P_c^2 __927.8__

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.	875.3	766.2	7.21	51.98	7.589	773.8	154.0	879.7	.91
2.	811.9	664.1	9.52	90.63	11.23	677.3	250.5	823.0	.85
3.	724.5	524.9	12.87	165.6	24.18	549.1	378.7	731.8	.76
4.	686.1	470.7	13.57	184.1	26.88	497.6	430.2	705.4	.71
5.									

Absolute Potential: __5,490__ MCFPD; n __.61__

COMPANY __THE TEXAS COMPANY__
ADDRESS __BOX 1270, MIDLAND, TEXAS__
AGENT and TITLE __L. I. BAKER, DISTRICT GAS MAN__
WITNESSED __HAROLD R. BARRETT__
COMPANY __PERMIAN BASIN PIPE LINE COMPANY__
REMARKS

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.