NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Basin Formation Dakota County San Juan

Initial XXX Annual ____ Special ____ Date of Test 4-12-62

Company M. B. Pudman Lease Federal Well No. 21-1

Unit O Sec. 21 Twp. 25N Rge. 9W Purchaser El Paso Natural Gas Company

Casing 4-1/2" Wt. 10.5 I.D. ____ Set at 6570 Perf. 6366 To 6378

Tubing 2" Wt. 4.7 I.D. ____ Set at 6350 Perf. -- To --

Gas Pay: From 6358 To 6380 L 6369 xG 0.70 -GL 4458 Bar.Press. 12 psi

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

Date of Completion: 4-1-62 Packer None Reservoir Temp. 150° F

OBSERVED DATA

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

No.	Flow Data (Prover) (Line) Size	Flow Data (Choke) ~~(Orifice)~~ Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						1932		1935		
1.		3/4	205	--	60	211	60	543	60	3 hrs
2.										
3.										
4.										
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.							
2.	~~12.365~~		~~217~~	~~1.000~~	~~0.9258~~	~~1.027~~	~~2552~~
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl. Specific Gravity Separator Gas ____
Gravity of Liquid Hydrocarbons ____ deg. Specific Gravity Flowing Fluid ____
F_c ____ $(1-e^{-s})$ ____ P_c ~~1947~~ P_c^2 ~~3790.8~~

No.	P_w / P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.									
2.						~~308.0~~	~~3482.8~~		~~0.285~~
3.									
4.									
5.									

Absolute Potential: ~~2719~~ MCFPD; n ~~0.75~~

COMPANY ____
ADDRESS ~~M. B. Pudman~~
AGENT and TITLE ____
WITNESSED Gregory Merrion
COMPANY ~~Consulting Petroleum Engineer~~

REMARKS

RECEIVED
MAY 14 1962
OIL CON. COM.
DIST. 3

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.