NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **South Blanco** Formation **Pictured Cliffs** County **San Juan**

Initial **X** Annual _____ Special _____ Date of Test **March 16, 1959**

Company **Southern Union Gas Company** Lease **Navajo Indian** Well No. **4-B**

Unit **D** Sec. **30** Twp. **27N** Rge. **8W** Purchaser **Southern Union Gas Company**

Casing **5½"** Wt. **15.5#** I.D. **4.950** Set at **2102** Perf. **2 010** To **2060**

Tubing **1"** Wt. **1.70#** I.D. _____ Set at **2021** Perf. **2001** To **2021**

Gas Pay: From **2010** To **2060** L _____ xG _____ =GL _____ Bar.Press. **12.0**

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

Date of Completion: **March 7, 1959** Packer **None** Reservoir Temp. _____

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						632		632		7 days
1.		3/4"	295		65°	332		295		3 hours
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.			307	0.9952	.9463	1.034	3,696
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
P_c _____ $(1-e^{-s})$ _____

Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 644 P_c^2 414.7
P_w 344 p^2_w 118.3

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.						118.3	296.4		
2.									
3.									
4.									
5.									

Absolute Potential: 4,916 MCFPD; n 0.85

COMPANY SOUTHERN UNION GAS COMPANY
ADDRESS P. O. Box 815, Farmington, New Mexico
AGENT and TITLE Thomas E. Fenno, Engineer
WITNESSED _____
COMPANY _____

REMARKS

RECEIVED
MAR 18 1959
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.