NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Aztec Pictured Cliffs Formation Pictured Cliffs County San Juan

Initial X Annual Special Date of Test February 3, 1960

Company Southern Union Gas Company Lease Zachry Well No. 13

Unit N Sec. 33 Twp. 29N Rge. 10W Purchaser Southern Union Gas Company

Casing 5½" Wt. 15.5 I.D. 4.950 Set at 2099 Perf. 1997 To 2052

Tubing 2" EUE Wt. 4.7 I.D. 1.995 Set at 1990 Perf. 1980 To 1990

Gas Pay: From 1997 To 2052 L ____ xG 0.67 Est. -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: Jan. 27, 1960 Packer ____ 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						560		567		7 days
1.		3/4"	165		65	165	65	362		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.	12.3650		177	0.9952	0.9463	1.018	2,098
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 579 P_c^2 335.2
Pw 374 P_w^2 139.9

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.						139.9	195.3		0.646
2.									
3.									
4.									
5.									

Absolute Potential: 3,315 MCFPD; n 0.85

COMPANY SOUTHERN UNION GAS COMPANY
ADDRESS P. O. Box 815, Farmington, New Mexico
AGENT and TITLE Gilbert Noland, Jr. - Engineer
WITNESSED ____
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_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.