NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Angel Peak Dakota Formation Dakota County San Juan

Initial X Annual ____ Special ____ Date of Test Dec. 28, 1960

Company Southern Union Gas Company Lease Federal Eaton Well No. 1-15

Unit A Sec. 15 Twp. 28N Rge. 11W Purchaser Southern Union Gas Company

Casing 4½" Wt. 9.50 I.D. 4.090 Set at 6251 Perf. 6014 To 6194

Tubing 2" EUE Wt. 4.7 I.D. 1.995 Set at 6019 Perf. 6013 To 6019

Gas Pay: From 6014 To 6194 L ____ xG 0.70 -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: Dec. 8, 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						2105		2105		10 days
1.		3/4"	340		77°	340	77°	840		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		352	0.9840	0.9258	1.039	4,120
2.							
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 2117 P_c^2 4482
P_w 852 P_w^2 726

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.						726	3756		0.404
2.									
3.									
4.									
5.									

Absolute Potential: 4,700 MCFPD; n 0.75
COMPANY Southern Union Gas Company
ADDRESS Box 808, Farmington, New Mexico
AGENT and TITLE Gilbert D. Noland, Jr. - Drilling Superintendent
WITNESSED Jack Manes
COMPANY Southern Union Gas Company

REMARKS

1. Well made mist of distillate throughout test.

RECEIVED
JAN 5 1961
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.