NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Basin Dakota Formation Dakota County San Juan

Initial XX Annual Special Date of Test May 23, 1962

Company Southern Union Prod. Co. Lease Federal Well No. 1-31

Unit M Sec. 31 Twp. 30-N Rge. 11-W Purchaser Southern Union Gas Company

Casing 5-1/2 Wt. 15.5 I.D. 4.950 Set at 6762 Perf. 6484 To 6710

Tubing 1-1/2 Wt. 2.75 I.D. 1.610 Set at 6355 Perf. None To None

Gas Pay: From 6484 To 6710 L 6355 xG .700 -GL 4449 Bar.Press. 12.0

Producing Thru: Casing Tubing xx Type Well G.G. Dual
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 4-30-62 Packer 6355 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						1961				14 days
1.	2"	3/4	243		68	243	68			3 hr.
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		255	.9924	.9258	1.029	2981
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.
Gravity of Liquid Hydrocarbons deg.
F_c 16.46 $(1-e^{-s})$ .276

Specific Gravity Separator Gas
Specific Gravity Flowing Fluid
P_c 1973 P_c^2 3892.7

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.	255	65.025	49.067	2407.570	664.489	729.5	3163.2	854	.433
2.									
3.									
4.									
5.									

Absolute Potential: 3483 MCFPD; n .75

COMPANY SOUTHERN UNION PRODUCTION CO.
ADDRESS P. O. Box 808- Farmington, New Mexico
AGENT and TITLE Verne Rockhold - Jr. Engineer
WITNESSED Verne Rockhold
COMPANY Southern Union Production

Original Signed By
VERNE ROCKHOLD

REMARKS

RECEIVED
MAY 25 1962
OIL CON. COM.

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.