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 4-25-64

Company Southern Union Production Co. Lease Huerfanito Unit Well No. 78

Unit B Sec. 36 Twp. 27-N Rge. 9-W Purchaser El Paso Natural Gas Co.
930/N line 1650/E line

Casing 5-1/2 Wt. 17.0 I.D. 4.892 Set at 6720 Perf. 6397 To 6599

Tubing 1-1/2 Wt. 2.90 I.D. 1.610 Set at 6428 Perf. 6418 To 6428

Gas Pay: From 6397 To 6599 L 6418 xG .735 -GL 4717 Bar.Press. 12.0

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

Date of Completion: 4/5/64 Packer 6388 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						2111				20 days
1.	2"	3/4"	324		65°	324	65°			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		336	.9952	.9035	1.042	3893
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 16.46 $(1-e^{-s})$ .290 P_c 2123 P_c^2 4507.129

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.	336	112896	64.079	4106.118	1190.774	1303.670	3203.459	1142	.538
2.									
3.									
4.									
5.									

Absolute Potential: 5029 MCFPD; n .75

COMPANY Southern Union Production Company
ADDRESS P. O. Box 808 - Farmington, New Mexico
AGENT and TITLE Verne Rockhold - Jr. Engineer
WITNESSED C. R. Wagnor
COMPANY El Paso Natural Gas Company

Original Signed By
VERNE ROCKHOLD

APR 30

REMARKS

cc: (3) New Mexico O.C.C.
cc: (1) Commissioner of Public Lands of the State of New Mexico
cc: (1) Mr. Paul Clote
cc: (1) El Paso Natural Gas Co. - Proration Dept. Box 1492, El Paso, Texas
cc: (1) Mr. H. L. Kindricks, Box 990 - Farmington, New Mexico
cc: (1) File

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.