

## NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalnet Formation Yates - 7 Rivers County Lea  
Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 2-4 to 2-8-57  
Company El Paso Natural Gas Company Lease Wells Well No. 13  
Unit L Sec. 5 Twp. 25 S Rge. 37 E Purchaser El Paso Natural Gas Company  
Casing 3 1/2" Wt. \_\_\_\_\_ I.D. \_\_\_\_\_ Set at 3369 Perf. \_\_\_\_\_ To \_\_\_\_\_  
Tubing 2" Wt. 4.7 I.D. \_\_\_\_\_ Set at 3034 Perf. \_\_\_\_\_ To \_\_\_\_\_  
Gas Pay: From 3000 To 3034 L 3034 xG .650 -GL 1972 Bar.Press. 13.2  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 3-6-50 Packer None Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (~~Barometer~~) (~~Chronometer~~) (Meter)Type Taps Flange

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.
	( <del>Barometer</del> ) (Line) Size	( <del>Chronometer</del> ) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	
SI								
1.	4"	1.000	322	14.8	62	472		72
2.	4"	1.000	353	26.0	62	334		24
3.	4"	1.000	387	43.6	62	399		24
4.	4"	1.000	435	60.8	67	457		24
5.								

## FLOW CALCULATIONS

No.	Coefficient <u>Flange</u> (24-Hour)	$\sqrt{h_w P_f}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
1.	6.135	82.10		.9924	.9602	1.033	493
2.	6.135	97.37		.9921	.9602	1.037	305
3.	6.135	116.21		.9924	.9602	1.029	700
4.	6.135	127.60		.9933	.9602	1.025	766
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> 9.936 (1-e<sup>-S</sup>) .127

Specific Gravity Separator Gas .650  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 491.2 P<sub>c</sub><sup>2</sup> 241.3

No.	$\frac{P}{P_t}$ P <sub>t</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	$\frac{(F_c Q)^2}{(1-e^{-S})}$	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup>	Cal. P <sub>w</sub>	$\frac{P_w}{P_c}$
1.	492.2	161.8	4.932	24.52	3.12	164.9	76.4	406.1	.81
2.	367.2	134.8	5.911	34.94	4.44	139.2	102.1	373.1	.74
3.	312.2	97.5	6.935	48.37	6.14	109.6	137.7	321.9	.63
4.	276.2	73.0	7.611	57.92	7.36	89.4	160.9	283.5	.54
5.									

Absolute Potential: 970 MCFPD; n .568

COMPANY El Paso Natural Gas Company  
ADDRESS P. O. Box 1324, Jal. New Mexico  
AGENT and TITLE R. T. Wright R. T. Wright - Petroleum Engineer  
WITNESSED H. H. Kerby  
COMPANY El Paso Natural Gas Company

REMARKS

ELVIS A. U...  
PES ENGINEER

## 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  $P_t$ .