

## NEW MEXICO OIL CONSERVATION COMMISSION

ELVIS A. UTZ  
GAS ENGINEER

MAIN OFFICE 000

HOODS OFFICE 000

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Rumont Formation Queen County LeeInitial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 8-20 to 8-24-56Company El Paso Natural Gas Company Lease Shell State Well No. 10Unit H Sec. 36 Twp. 20 S Rge. 36 E Purchaser El Paso Natural Gas CompanyCasing 5 1/2 Wt. 15.5 I.D. 4.950 Set at 3334 Perf. \_\_\_\_\_ To \_\_\_\_\_Tubing 2 Wt. 4.7 I.D. 1.995 Set at 3569 Perf. \_\_\_\_\_ To \_\_\_\_\_Gas Pay: From 3345 To 3520 L 3569 xG .670 -GL \_\_\_\_\_ Bar.Press. 13.2Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well SingleDate of Completion: 10-18-54 Packer None Single-Bradenhead-G. G. or G.O. Dual  
Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Pressure) (Shank) (Meter) Type Taps Flange

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.
	(Line) Size	(Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	
SI								
1.	4"	1.500	972	4.5"	64	955	955	72
2.	4"	1.500	960	6.7"	70	928	928	24
3.	4"	1.500	973	7.7"	70	917	917	24
4.	4"	1.500	972	9.6"	70	900	901	24
5.						886	887	24

## FLOW CALCULATIONS

No.	Coefficient (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.	13.99	108.84		.9962	.9463	1.064	1,528
2.	13.99	160.38		.9905	.9463	1.060	2,230
3.	13.99	186.39		.9905	.9463	1.060	2,591
4.	13.99	230.20		.9905	.9463	1.060	3,199
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> Measured (1-e<sup>-s</sup>) \_\_\_\_\_  
Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 968.2 P<sub>c</sub> 937.4

No.	P <sub>w</sub> P <sub>st</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> )	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>	P <sub>w</sub> P <sub>c</sub>
1.	971.2					885.9	51.5		.9717
2.	930.2					865.3	72.1		.9602
3.	914.2					835.8	101.6		.9434
4.	900.2					810.4	127.0		.9287
5.									

Absolute Potential: 15,500 MCFPD; n .800COMPANY El Paso Natural Gas CompanyADDRESS P. O. Box 1384, Jal., New MexicoAGENT and TITLE R. T. Wright - Petroleum Engineer *R. T. Wright*WITNESSED Earl G. SmithCOMPANY El Paso Natural Gas Company

## REMARKS

Unable to get 30% draw down - maximum capacity of meter run.

## 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.

$F_{pv}$  = Supercompressibility 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  $P_t$ .