

## NEW MEXICO OIL CONSERVATION COMMISSION

MODELS OFFICE 000

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates County Lea  
Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 12-3 to 12-7-56  
Company Ralph Lowe Lease Shell-State "C" Well No. 2  
Unit N Sec. 36 Twp. 23S Rge. 36E Purchaser El Paso Natural Gas Company  
Casing 5 1/2 Wt. 17.0 I.D. 4.892 Set at 3600 Perf. 2895 To 2910  
Tubing 2 Wt. 4.7 I.D. 1.995 Set at 3500 Perf. \_\_\_\_\_ To \_\_\_\_\_  
Gas Pay: From 2895 To 2910 L 2895 xG .650 -GL 1882 Bar.Press. 13.2  
Producing Thru: Casing X Tubing \_\_\_\_\_ Type Well G. O. Dual  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 3-3-48 Packer 3425 Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (PSS723) (PSS723) (Meter)Type Taps Flg.

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.	Press. psig	Temp. °F.	
SI								809		72
1.	4.000	1.250	707	9.0	95			708		24
2.	4.000	1.250	671	15.2	95			675		24
3.	4.000	1.250	650	20.7	90			656		24
4.	4.000	1.250	569	46.2	87			576		24
5.										

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wPF}}$	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.	9.643	80.50		.9680	.9608	1.060	765
2.	9.643	102.00		.9680	.9608	1.057	968
3.	9.643	117.16		.9723	.9608	1.059	1118
4.	9.643	164.05		.9750	.9608	1.052	1559
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>o</sub> 1.812 (1-e<sup>-s</sup>) .121

Specific Gravity Separator Gas .650  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 822.2 P<sub>c</sub><sup>2</sup> 676.0

No.	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>	(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.	721.2	520.1	1.4	2.0	0.2	520.3	155.7	721.3	.877
2.	688.2	473.6	1.8	3.2	0.4	474.0	202.0	688.5	.837
3.	669.2	447.8	2.0	4.0	0.5	448.3	227.7	669.6	.814
4.	589.2	347.2	2.8	7.8	0.9	348.1	327.9	590.0	.718
5.									

Absolute Potential: 3100 MCFPD; n .964

COMPANY Ralph Lowe  
ADDRESS P. O. Box 832, Midland, Texas  
AGENT and TITLE Archie P. Farr, Petroleum Engineer  
WITNESSED \_\_\_\_\_  
COMPANY \_\_\_\_\_

REMARKS

## 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  $P_t$ .