

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Bumont Formation Queen County SanInitial Annual X Special          Date of Test 8-10-56Company Cities Service Oil Company Lease          State "AT" Well No. 1Unit M Sec. 4 Twp. 19S Rge. 37E Purchaser Permian Basin Pipeline CompanyCasing 5 1/2" Wt. 14.0# I.D. 5.012" Set at 4000' Perf. 3608' To 3996'Tubing 2-3/8" Wt. 4.7# I.D. 1.995" Set at 3870' Perf.          To         Gas Pay: From 3608' To 3900' L 3870' xG 0.680 -GL 2632 Bar.Press. 13.2Producing Thru: Casing          Tubing X Type Well SingleDate of Completion: 5-20-55 Packer X Reservoir Temp. 98° Est.CO<sub>2</sub> -1.1%, N<sub>2</sub>-3.1%

## OBSERVED DATA

Tested Through (~~1 1/2" ORIFICE~~) (Meter) Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						864.2		864.8		72 1/2
1.	4"	1.50	444.8	2.2	93	697.0	93	761.9	93	239 1/4
2.	4"	1.50	443.2	6.9	78	616.4	78	662.7	78	24 1/2
3.	4"	1.50	443.7	10.8	71	540.4	71	594.2	71	24
4.	4"	1.50	440.5	14.0	64	466.9	64	534.6	64	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.	13.26	31.75	458.0	0.9697	0.9393	1.036	457
2.	13.26	36.13	456.4	0.9831	0.9393	1.041	823
3.	13.26	70.40	458.9	0.9896	0.9393	1.043	939
4.	13.26	79.70	453.7	0.9962	0.9393	1.047	1192
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl.  
Gravity of Liquid Hydrocarbons - deg.  
F<sub>c</sub> - (1-e<sup>-s</sup>) -Specific Gravity Separator Gas .680  
Specific Gravity Flowing Fluid           
P<sub>c</sub> 878.0 P<sub>c</sub><sup>2</sup> 770.9

No.	P <sub>w</sub> 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.	775.1					600.8	170.1		
2.	675.9					456.8	314.1		
3.	607.4					368.9	402.0		
4.	547.8					300.1	470.8		
5.									

Absolute Potential: 1906 MCFPD; n 0.95COMPANY Permian Basin Pipeline Company  
ADDRESS Hobbs, New Mexico  
AGENT and TITLE R. L. West, Gas Engineer  
WITNESSED Richard O. Durg  
COMPANY Cities Service Oil Company

REMARKS

ELMS A.  
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## 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  $P_t$ .