

## NEW MEXICO OIL CONSERVATION COMMISSION

ELVIS A. UTZ  
C.E. ENGINEER

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Permian Formation Queen County 100Initial XX Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 7-25 to 8-1-56Company Gulf Oil Corporation Lease Crcutt, H. T. "A" Well No. 1Unit N Sec. 5 Twp. 21S Rge. 36E Purchaser Permian Basin FL Co.Casing 5.5 Wt. 17 I.D. 4.892 Set at 3718 Perf. 3399 To 3700Tubing 2.375 Wt. 4.7 I.D. 1.995 Set at 3694 Perf. \_\_\_\_\_ To \_\_\_\_\_Gas Pay: From 3399 To 3700 L 3694 xG .665 -GL 2457 Bar.Press. 13.2Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well SingleDate of Completion: 3-1-54 Packer None Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps Pipe

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						910.9		911.3		72
1.	4	1.50	867.7	7.1	77	813.7		850.7		24
2.	4	1.50	874.5	15.1	78	798.0		813.5		24
3.	4	1.50	873.7	28.8	65	750.4		777.5		24
4.	4	1.50	881.2	39.4	60	671.7		782.0		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.	15.26	58.43	880.9	.9840	.9498	1.042	868
2.	15.26	85.81	837.7	.9834	.9498	1.042	1274
3.	15.26	118.40	886.9	.9952	.9498	1.043	1708
4.	15.26	139.60	894.4	1.0000	.9498	1.049	2122
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> \_\_\_\_\_ (1-e<sup>-s</sup>)Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 924.5 P<sub>c</sub> 854.7

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.	867.7					746.3	106.4	93	
2.	826.7					683.4	171.3	89	
3.	790.7					625.2	229.5	86	
4.	735.2					540.5	314.2	80	
5.									

Absolute Potential: 4940MCFPD; n 0.84COMPANY Gulf Oil CorporationADDRESS Box 2167, Hobbs, N.M.AGENT and TITLE J. L. Smith

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  $P_t$ .