

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE HOBBS OFFICE

ELVIS A. UTZ  
GAS ENGINEER

Form C-122

MULTI-POINT BACK-PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Monument Formation Queen County Lea

Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special  Date of Test 7-23- to 7-27-56

Company Phillips Petroleum Co. Lease Monument Well No. 1

Unit H Sec. 12 Twp. 198 Rge. 37E Purchaser R. P. N. G.

Casing 5-1/2 Wt. 15.5 I.D. 4.976 Set at 3898 Perf. 3740 To 3885

Tubing 2 Wt. 4.7 I.D. 1.995 Set at 3880 Perf. 3858 To 3868

Gas Pay: From 3560 To 3898 L 3740 xG .690 -GL 2981 Bar.Press. 13.2

Producing Thru: Casing \_\_\_\_\_ Tubing  Type Well single

Date of Completion: 4-21-58 Packer  Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. \_\_\_\_\_

OBSERVED DATA

Tested Through (Prover) (Choke) (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
SI									
1.	4	1.500	610	1.752	69	873	761		72
2.	4	1.500	627	2.552	73	701		plc	24
3.	4	1.500	657	2.82	77	667		"	24
4.	4	1.500	696	2.22	76	697*		"	24
5.								"	24

\*Unable to get 30% drawdown because of high line pressure.

FLOW CALCULATIONS

No.	Coefficient Flg. (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	43.68		0.9915	0.9325	1.072	606
2.	13.99	64.51		0.9875	0.9325	1.072	891
3.	13.99	72.48		0.9840	0.9325	1.078	1003
4.	13.99	58.58		0.9830	0.9325	1.085	817
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 153,000 cf/bbl.

Gravity of Liquid Hydrocarbons - deg.

F<sub>c</sub> 9.936 (1-e<sup>-s</sup>) .163

Specific Gravity Separator Gas -

Specific Gravity Flowing Fluid 0.690

P<sub>c</sub> 886.2 P<sub>c</sub><sup>2</sup> 785.4

No.	P <sub>w</sub> Pt (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.	773.2	597.8	6.02	36.24	5.9	603.7	181.7	777	.877
2.	714.2	510.1	8.85	78.32	12.8	522.9	262.9	723	.816
3.	680.2	462.7	10.00	100	16.3	479.0	306.4	692	.780
4.	710.2	504.4	8.13	66.10	10.7	515.1	270.3	718	.810
5.									

Absolute Potential: 2570 MCFPD; n 1.0, 998

COMPANY Phillips Petroleum Company

ADDRESS Box 2105, Hobbs, N.M.

AGENT and TITLE W. A. Roberts, District Production Supt.

WITNESSED none

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  $P_t$ .