

## NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

1956 OCT 30 AM 10:51

Pool Dumont Formation SB-Q County LeaInitial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 7-14-56Company Phillips Petroleum Co. Lease Hobbs Well No. 4Unit SW 1/4 N Sec. 18 Twp. 20S Rge. 37E Purchaser Permian Basin Pipeline Co.Casing 7" Wt. 24# I.D. 6.336 Set at 3737' Perf. 3390' To 3490'Tubing 2" Wt. 4.7# I.D. 1.990 Set at 3826 Perf. \_\_\_\_\_ To \_\_\_\_\_Gas Pay: From 3390' To 3490' L 3390 xG 0.07 -GL 2271 Bar.Press. 13.2Producing Thru: Casing X Tubing \_\_\_\_\_ Type Well \_\_\_\_\_Date of Completion: 3-9-55 Packer 3877 Single-Bradenhead-G. G. or G.O. Dual  
Reservoir Temp. 60.0, dual

## OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps pipe taps

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								997.0		72 hr SI
1.	4"	1"	442.1	6.1	94			923.7		24-1/4 hr
2.	4"	1"	444.3	11.3	94			906.7		24 hr
3.	4"	1"	444.9	26.8	61			873.0		24-1/4 hr
4.	4"	1"	442.0	30.0	60			825.2		25 hrs
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.	6.373	53.83	-	.9488	.9488	1.043	326
2.	"	73.27		.9499	"	1.049	457
3.	"	113.4		.9990	"	1.033	721
4.	"	134.1		1.000	"	1.033	978
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 159,500 cf/bbl.

Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.

F<sub>c</sub> .752 (1-e<sup>-s</sup>) 0.145

Specific Gravity Separator Gas \_\_\_\_\_

Specific Gravity Flowing Fluid .67P<sub>c</sub> 970.2 P<sub>c</sub> 941.3

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.	936.9	877.8	.2457	.6039	.0008	877.8	63.5	936.9	.976
2.	919.9	846.2	.3437	.1181	.0171	846.2	95.1	919.2	.946
3.	884.2	781.4	.5422	.2940	.0426	781.4	155.9	886.2	.919
4.	838.4	702.9	.7305	.5434	.0791	702.9	238.3	838.4	.863
5.									

Absolute Potential: 3100 MCFPD; n .86COMPANY Phillips Petroleum Co.ADDRESS Box 2105 Hobbs, N.M.AGENT and TITLE W. A. Roberts, District Production Supt.WITNESSED none

COMPANY \_\_\_\_\_

REMARKS

ELVIS A. UIZ  
GAS ENGINEER

## 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  $P_t$ .