

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Lea Pennsylvanian Formation Bend County Lea  
 Initial x Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 12-13, 14-61  
 Company The Ohio Oil Company Lease Lea Unit Well No. 6  
 Unit 1 Sec. 11 Twp. 20S Rge. 34E Purchaser -  
 Casing 7" Wt. 29# I.D. 6.184 Set at 14,358 Perf. 12,834 To 12,849  
13,162 To 13,172  
 Tubing 2 3/8" Wt. 4.7# I.D. 1.995 Set at 12,779 Perf. Open ended To \_\_\_\_\_  
 Gas Pay: From \_\_\_\_\_ To 13,172 L 12,779 xG .596 -GL 7616 Bar.Press. 13.2  
 Producing Thru: Casing \_\_\_\_\_ Tubing x Type Well Dual  
 Single-Bradenhead-G. G. or G.O. Dual  
 Date of Completion: 12-3-61 Packer 12,776 Reservoir Temp. 178

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						5376			234 Hrs. S.I.
1.	4"	1.000	848	50.6	86	4827	65	Pkr.	4
2.	4"	1.750	855	13.0	92	4321	69	"	3
3.	4"	1.750	855	49.0	81	3304	74	"	3
4.	4"	1.750	855	73.0	76	2861	76	"	3
5.									

FLOW CALCULATIONS

No.	Coefficient (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.	6.135	208.72	861.2	.9759	1.0033	1.057	1325
2.	19.27	125.07	863.2	.9706	1.0033	1.057	2481
3.	19.27	206.23	863.2	.9904	1.0033	1.059	4139
4.	19.27	260.21	868.2	.9850	1.0033	1.063	5267
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 80.486 cf/bbl.  
 Specific Gravity Separator Gas .596  
 Gravity of Liquid Hydrocarbons 49.2 deg.  
 Specific Gravity Flowing Fluid \_\_\_\_\_  
 $P_c$  \_\_\_\_\_  $P_c^2$  \_\_\_\_\_

No.	$P_w$ P <sub>t</sub> (psia)	$P_t^2$	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> )	$P_w^2$	$P_c^2 - P_w^2$	Cal. P <sub>w</sub>	$\frac{P_w}{P_c}$
1.									
2.									
3.									
4.									
5.									

Absolute Potential: 6,893\* MCFPD; n .855572

COMPANY The Ohio Oil Company  
 ADDRESS Box 2107 Hobbs New Mexico  
 AGENT and TITLE John R. Bester Petroleum Engineer  
 WITNESSED \_\_\_\_\_  
 COMPANY \_\_\_\_\_

Pf&Ps	Pf <sup>2</sup> &Ps <sup>2</sup>	Pf <sup>2</sup> -Ps <sup>2</sup>	REMARKS	*Back Pressure Curve based on measured BHP's.
6885.2 SI	47,406	-		
1 6351.2	40,338	7,068		
2 5755.2	33,122	14,284		
3 4614.2	21,291	26,115		
4 4227.2	17,869	29,537		

## 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  $P_t$ .