

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

~~ONE~~  
~~XXXX~~-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Jalmat Gas Pool Formation Yates & Seven Rivers County Lea

Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X \* Date of Test 4/11 thru 4/18/58

Company The Ohio Oil Company Lease State McDonald A/c 1 Well No. 6

Unit N Sec. 16 Twp. 22-S Rge. 36-E Purchaser Permian Basin Pipeline Company

Casing 7" Wt. 24# I.D. 6.336 Set at 3657 Perf. \*\* To \_\_\_\_\_

Tubing 2-7/8" Wt. 6.5# I.D. 2.441 Set at 3488 Perf. 3468 To 3471

Gas Pay: From 3058 To 3530 L 3468 xG 0.660 -GL 2289 Bar.Press. 13.2

Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single

Date of Completion: 10/21/54 Packer 2987-2990 Reservoir Temp. --

\* Special test as authorized under OBSERVED DATA

Order No. R-1092-A  
Tested Through (~~Proven~~) (~~Choke~~) (Meter) Type Taps Pipe

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.		
	( <del>Proven</del> ) (Line) Size	( <del>Choke</del> ) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.		Press. psig	Temp. °F.
SI						<u>710.0</u>	<u>68</u>	<u>Pkr</u>	<u>--</u>	<u>72 hrs S.I.</u>
1.	<u>4"</u>	<u>1.750</u>	<u>563</u>	<u>23.46</u>	<u>68</u>	<u>608.0</u>	<u>68</u>	<u>Pkr</u>	<u>--</u>	<u>24 hrs</u>
2.										
3.										
4.										
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.	<u>21.69</u>	<u>116.27</u>	<u>576.2</u>	<u>0.9924</u>	<u>0.9535</u>	<u>1.058</u>	<u>2525</u>
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl.  
Gravity of Liquid Hydrocarbons -- deg.  
F<sub>c</sub> 5.866 (1-e<sup>-S</sup>) 0.146

Specific Gravity Separator Gas --  
Specific Gravity Flowing Fluid --  
P<sub>c</sub> 723.2 P<sub>c</sub><sup>2</sup> 523.0

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.	<u>621.2</u>	<u>385.9</u>	<u>14.812</u>	<u>219.40</u>	<u>32.0</u>	<u>417.9</u>	<u>105.1</u>	<u>646.5</u>	<u>89.4</u>
2.									
3.									
4.									
5.									

Absolute Potential: 10,633 MCFPD; n 0.895974 \*\*\*

COMPANY The Ohio Oil Company  
ADDRESS Box 2107, Hobbs, New Mexico  
AGENT and TITLE John R. Barber - Petroleum Engineer  
WITNESSED Tested by: Herbert H. Kerby - El Paso Natural Gas Company  
COMMENTS Witnessed by: H. D. Chiles & M. L. Johnston - The Ohio Oil Company

REMARKS

\*\* 7" O.D. csg perfs as follows: 3058'-3143', 3158'-3221', 3240'-66', 3322'-44', 3362'-80', 3426'-56', & 3474'-3530'.

\*\*\* Slope taken from annual Multi-point Back Pressure test of 2/1/57.

## 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  $P_t$ .