

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Emmet Gas Formation Seven Rivers - Queen County Lee

Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 5-14/5-15-59

Company The Ohio Oil Company Lease State McDonald A/c 2 Well No. 26

Unit J Sec. 13 Twp. 22-S Rge. 36E Purchaser Permian Basin Pipeline Company

Casing 5 1/2" Wt. 15.5 I.D. 4.976" Set at 3704' Perf. \* To \_\_\_\_\_

Tubing 2 3/8 Wt. 4.70 I.D. 1.995" Set at 3440 Perf. 3439 To 3440

Gas Pay: From 3186 To 3340 L 3439 xG 0.670 -GL 2304 Bar.Press. 13.2

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

Date of Completion: 2-20-58 Packer No Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. \_\_\_\_\_

5 1/2" Csg. Perfs: 3186-3240, 3252-64, 3274-86, 3360-70 & 3410-40. OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Journ) (Stem) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						1043.5		1043.5		69 3/4
1.	2"	0.062	1009.3	-	61	1009.3	61	1009.6	-	3
2.	2"	0.093	949.6	-	66	949.6	66	949.9	-	3
3.	2"	0.125	853.7	-	71	853.7	71	854.0	-	3
.	2"	0.187	570.0	-	60	570.0	60	577.3	-	3
5.	4" (Line)	1.250	356.7	4.8	71	385.2	71	418.0	-	21

FLOW CALCULATIONS

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
0.0827		1022.5	0.9990	0.9463	1.104	88
0.1820		952.8	0.9943	0.9463	1.095	180
0.3418		866.9	0.9896	0.9463	1.081	300
0.7851		583.2	1.0000	0.9463	1.058	458
10.24	42.13	369.9	0.9896	0.9463	1.034	418

PRESSURE CALCULATIONS

Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.

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

$P_w$  measured (1-e<sup>-s</sup>) \_\_\_\_\_

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

Specific Gravity Flowing Fluid \_\_\_\_\_

$P_c$  1056.7  $P_c^2$  1116

$P_w$ Pt (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. $P_w$	$\frac{P_w}{P_c}$
					1046	70.49		96.79
					927.6	189.0		91.14
					752.0	364.6		82.07
					348.7	767.9		55.88
					185.9	930.7		40.81

absolute Potential: 478 MCFPD; n 0.737

PANY The Ohio Oil Company

RESS Box 2107, Hobbs, New Mexico

WT and TITLE Ned R. Daniels, Petroleum Engineer

TESTED Tested by: J. R. Horton, Permian Basin Pipeline Company

WITNESSED Witnessed by: Ned R. Daniels, The Ohio Oil 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  $P_t$ .