

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Basent Formation Queen County Lea

Initial Annual Special Date of Test 6/9 thru 6/17/56

Company The Ohio Oil Company Lease State "A"-3071-D Well No. 1

Unit J Sec. 28 Twp. 19-S Rge. 37-E Purchaser Permian Basin Pipeline Company

Casing 5.5 Wt. 17 I.D. 4.092 Set at 3869 Perf. 3550-3602 4 3610-3702

Tubing 2.375 Wt. 4.7 I.D. 1.995 Set at 3528 Perf. 3525 To 3528

Gas Pay: From 3550 To 3702 L 3525 xG 0.673 -GL 2372 Bar.Press. 13.2

Producing Thru: Casing Tubing X Type Well Single

Date of Completion: April 25, 1955 Packer None Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp.

OBSERVED DATA

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

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.
	(Line) Size	(Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	
SI	4"	2"	—	—	—	870.8	81	72 1/2 hr. S.I.
1.	4"	2"	448.4	3.6	88	832.3	88	2 1/2 hr.
2.	4"	2"	450.4	9.0	79	772.4	88	2 1/4 hr.
3.	4"	2"	449.8	20.3	69	670.5	88	2 3/4 hr.
4.	4"	2"	448.1	27.2	71	571.9	88	2 1/2 hr.
5.								

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	29.92	40.76	461.6	0.9741	0.9441	1.052	1169
2.	29.92	64.62	464.0	0.9822	0.9441	1.046	2575
3.	29.92	96.95	463.0	0.9913	0.9441	1.049	2848
4.	29.92	112.02	461.3	0.9896	0.9441	1.047	3279
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/obl.

Gravity of Liquid Hydrocarbons deg.

F_c P_w Measured (1-e^{-s})

Specific Gravity Separator Gas

Specific Gravity Flowing Fluid

P_c 886.5 P_c 785.9

No.	P _w P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w P _c
1.	856.5					733.6	52.3	96.62	
2.	823.2					677.7	106.3	92.86	
3.	776.3					605.3	180.1	87.79	
4.	745.7					556.1	229.8	84.32	
5.									

Absolute Potential: 7,800 MCFPD; n 0.698092

COMPANY The Ohio Oil Company

ADDRESS P. O. Box 2107, Hobbs, New Mexico

AGENT and TITLE Thomas O. Webb, Petroleum Engineer

WITNESSED Mr. Harold Barrett

COMPANY Permian Basin Pipeline Company

REMARKS

NOTE: Due to improper alignment of points on back pressure curve, well will be re-tested.

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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 .