

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Tubb Gas Formation Tubb County Lee
Initial Annual X Special Date of Test 8 - 8/16 - 1957
Company The Ohio Oil Company Lease Walter Lynch Well No. 4
Unit 0 Sec. 1 Twp. 22-S Rge. 37-E Purchaser Permian Basin Pipeline Company
Casing 5 1/2" Wt. 15.5# I.D. 4.950" Set at 6430' Perf. * To --
Tubing 2.375" Wt. 4.7# I.D. 1.995" Set at 6352' Perf. 6188' To 6190'
Gas Pay: From 6010' To 6193' L 6188' xG -- -GL See Below Bar.Press. 13.2
Producing Thru: Casing Tubing X Type Well Gas-Gas Dual
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 4-12-54 Packer 5906' Reservoir Temp. --

OBSERVED DATA

Tested Through (Bourer) (Globe) (Meter)
CO₂ = 0.00% N₂ = 2.83%

Type Taps Pipe

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Bourer) (Line) Size	(Globe) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						1628.4	--	Packer	--	72 Hour SIP
1.	4"	2.00	492.0	7.0	60	1405.1	60	"	--	24 hours
2.	4"	2.00	498.7	14.6	63	1188.4	63	"	--	24 hours
3.	4"	2.00	500.1	21.9	70	951.0	70	"	--	24 hours
4.	4"	2.00	495.6	23.7	84	667.7	84	"	--	24 hours
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w P_f}$	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	59.47	505.2	1.0000	0.9292	1.058	1749
2.	29.92	86.45	511.9	0.9971	0.9292	1.058	2535
3.	29.92	106.02	513.3	0.9905	0.9292	1.054	3077
4.	29.92	109.81	508.8	0.9777	0.9292	1.049	3131
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio See Below cf/bbl.
Gravity of Liquid Hydrocarbons 65.0 deg. API
F_c 9.936 (1-e^{-s}) See Below

Specific Gravity Separator Gas 0.695
Specific Gravity Flowing Fluid See Below
P_c 1641.6 P_c 2694.9

No.	P _w P _t (psia)	P _c 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.	1418.3	2011.6	17.378	301.99	80.63	2002.2	602.7	1446.4	0.88
2.	1201.6	1443.8	25.188	634.44	170.03	1613.8	1081.1	1270.4	0.77
3.	964.2	929.7	30.573	934.71	248.63	1178.3	1516.6	1085.5	0.66
4.	680.9	463.6	31.110	967.83	255.51	719.1	1975.8	848.0	0.52
5.									

Absolute Potential: 4475.3 ** MCFPD; n 0.637916

COMPANY The Ohio Oil Company
ADDRESS P.O. Box 2107, Hobbs, New Mexico
AGENT and TITLE Harrell D. Chiles - Petroleum Engr. Harrell D. Chiles
WITNESSED Mr. B. L. West
COMPANY Permian Basin Pipeline Company

REMARKS

* 5 1/2" O.D. Csg. Perfs. as follows: 6010'-6068', 6075'-6085', 6088'-6127', & 6155'-6193'

** See Back Pressure Curve.

Rate	Fluid (bbl/s)	GLR ₃ (Ft ³ /Dbl)	Gm/x	GL	(1-e ^{-s})
1	25.43	68.777	0.731	4523	0.267
2	39.10	64.834	0.734	4542	0.268
3	38.30	80.339	0.726	4492	0.266
4	30.07	104.124	0.719	4440	0.264

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.

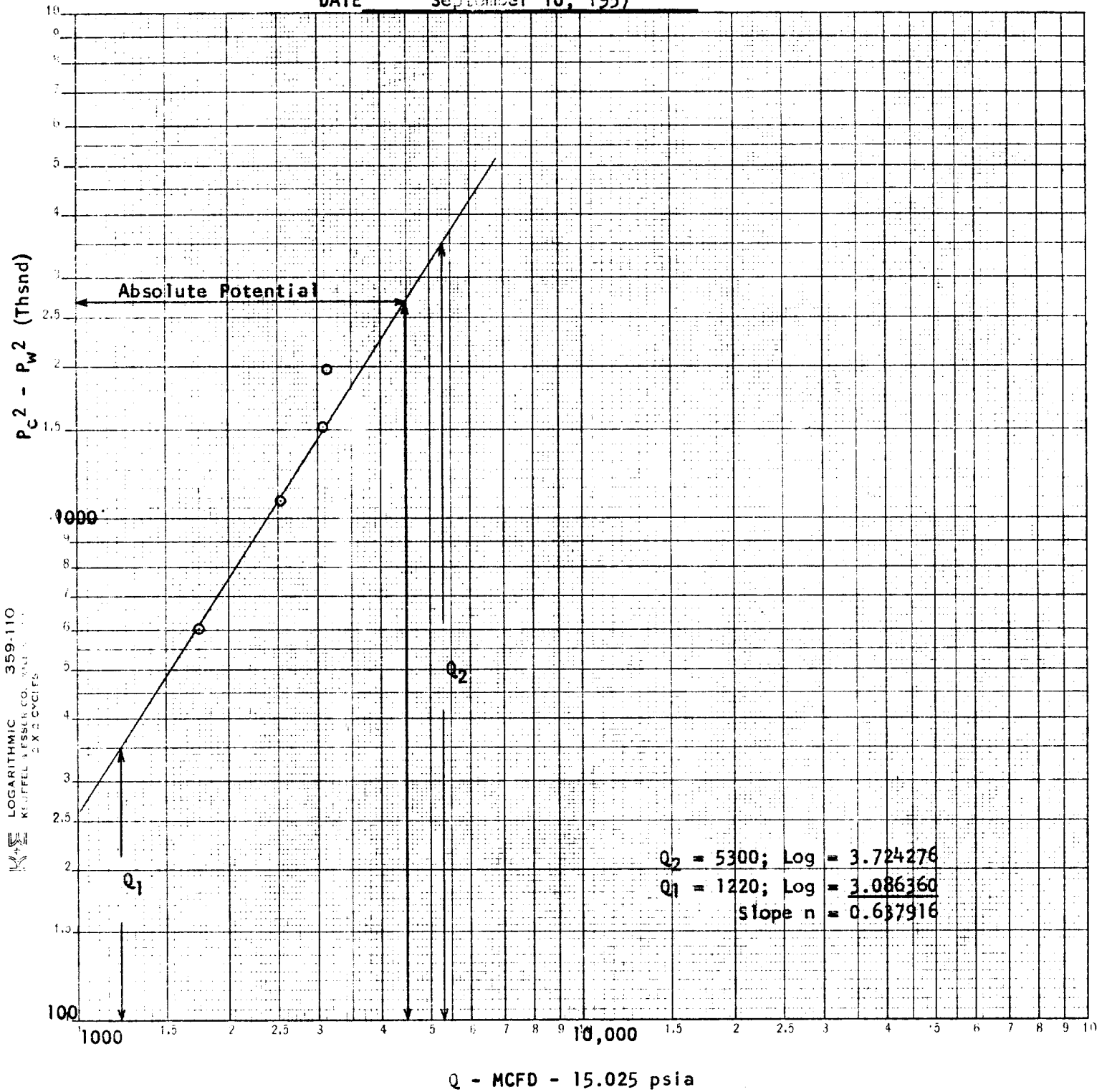
F_t = Flowing temperature correction factor.

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 .

COMPANY	The Ohio Oil Company
WELL	Walter Lynch, Well No. 4
POOL	Tubb Gas
LOCATION	D Sec. 1-22S-37E
COUNTY	Lon
DATE	September 10, 1957



* Due to improper alignment of points well will be retested.