

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

HOBBS OFFICE OCC

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Tubb Gas Formation 1957 OCT 25 PM 3:10 County Lea

Initial Annual X Special Date of Test 9/19-27/57

Company The Ohio Oil Company Lease Walter Lynch Well No. 4

Unit D Sec. 1 Twp. 22-S Rge. 37-E Purchaser Permian Basin Pipeline Co.

Casing 5½" Wt. 17# 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

Date of Completion: 4/12/54 Packer 5906' Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. --

OBSERVED DATA

Tested Through (XXXXX) (XXXXX) (Meter)

CO₂ = 0.00% N₂ = 2.83%

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						1596.5	--	72 hr SIP
1.	4"	2.00	496.3	6.8	63	1502.6	63	24 hrs
2.	4"	2.00	498.8	11.7	64	1384.2	64	24 hrs
3.	4"	2.00	496.8	18.3	66	1204.7	66	24 hrs
4.	4"	2.00	505.5	26.2	75	965.1	75	24 hrs
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	58.86	509.5	0.9971	0.9292	1.062	1733
2.	29.92	77.40	512.0	0.9962	0.9292	1.062	2277
3.	29.92	96.61	510.0	0.9943	0.9292	1.060	2831
4.	29.92	116.58	518.7	0.9859	0.9292	1.053	3365
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio See Below cf/bbl.

Gravity of Liquid Hydrocarbons 65° API @ 60 deg. F.

F_c 9.936 (1-e^{-s}) See Below

Specific Gravity Separator Gas 0.695

Specific Gravity Flowing Fluid See Below

P_c 1609.7 P_c 2591.1

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.	1515.8	2297.6	17.219	296.49	80.65	2378.2	212.9	1542.1	0.96
2.	1397.4	1952.7	22.624	511.85	139.22	2091.9	499.2	1446.3	0.90
3.	1217.9	1483.3	28.129	791.24	213.63	1696.9	894.2	1302.7	0.81
4.	978.3	957.1	33.435	1117.90	299.60	1256.7	1334.4	1121.0	0.70
5.									

Absolute Potential: 6046 MCFPD; n 0.5 (See attached back pressure curve)

COMPANY The Ohio Oil Company

ADDRESS Box 2107, Hobbs, New Mexico

AGENT AND TITLE H. D. Chiles - Petroleum Engineer

WITNESSED Mr. R. L. West

COMPANY Permian Basin Pipeline Co.

O.D.

REMARKS

* 5½" csg perfs as follows: 6010'-68', 6075'-85', 6088'-6127', & 6155'-93'

Rate	Fluid (bbls)	GLR (ft ³ /bbl)	G _{mix}	GL	(1-e ^{-s})
1	35.30	49,093	0.745	4610	0.272
2	45.82	49,694	0.745	4610	0.272
3	52.20	54,234	0.740	4579	0.270
4	49.74	67,652	0.732	4530	0.268

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 Lea
 DATE October 4, 1957

