

NEW MEXICO OIL CONSERVATION COMMISSION

MAIN OFFICE OCC

HOBBS OFFICE OCC

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Elmendorf Formation Tates & Seven Rivers County LeaInitial Annual Special X Date of Test 10-8-56Company Continental Oil Company Lease Lockhart A-13 Well No. 3Unit K Sec. 1S Twp. 21S Rge. 36E Purchaser EPNCasing 5 1/2 Wt. 17 I.D. Set at 3834 Perf. 3168 To 3269Tubing None Wt. I.D. Set at Perf. To Gas Pay: From 3168 To 3269 L 3168 xG .665 -GL 2106 Bar.Press. 13.2Producing Thru: Casing X Tubing Type Well SingleDate of Completion: 7-23-51 Packer None Reservoir Temp. 90°

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI	2	.250	667		76			878		72
1.	2	.500	345		70			667		3
2.	2	.625	235		70			345		3
3.	2	.750	163		70			235		3
4.	2	.750	137		70			163		3
5.	2	.750	137		70			137		24

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.	1.4030		669.2	.9850	.9498	1.066	922
2.	5.5233		358.2	.9905	.9498	1.034	1,924
3.	8.3555		248.2	.9905	.9498	1.023	1,996
4.	12.2023		176.2	.9905	.9498	1.016	2,055
5.	12.2023		150.2	.9905	.9498	1.013	1,746

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.
Gravity of Liquid Hydrocarbons .9583 deg.
F_c (1-e^{-s}) 0.135Specific Gravity Separator Gas
Specific Gravity Flowing Fluid
P_c 891.2 P_c 704.2

No.	P _w P _h (psia)	P _t	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.	669.2	662.4	.9	.8	.1	452.8	331.4	680	.76
2.	358.2	328.9	1.8	3.2	.4	128.7	665.3	358	.40
3.	248.2	61.6	1.9	3.6	.5	62.1	732.1	248	.28
4.	176.2	31.0	2.0	4.0	.5	31.5	762.6	176	.20
5.	150.2	22.6	1.8	3.2	.4	23.0	771.2	150	.17

Absolute Potential: 1,800 MCFPD; n .91COMPANY Continental Oil Co.
ADDRESS Box 427 - Hobbs, N.M.
AGENT and TITLE W. B. Howard, Gas Tester
WITNESSED
COMPANY

ILLEGIBLE

REMARKS

An attempt was made to test subject well through pipeline gathering system but due to low deliverability (gas is being compressed to produce into H.P. system) test was unsuccessful. Test above was accomplished by prover method while blowing to atmosphere. A slope of .91 was drawn thru 1st, 3rd and 4th points for the purpose of establishing the slope of the back pressure curve. The resulting slope of .92 was drawn thru the data point corresponding to the 24 hour rate of flow to determine the absolute potential. (Paragraph 10a and 10d, Manual for Back-Pressure Testing.)

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 .