

NEW MEXICO OIL CONSERVATION COMMISSION

ELVIS A. UTZ
GAS ENGINEER

HOBBS OFFICE OCC

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Bumont Formation Queen County Lee

Initial _____ Annual _____ Special Date of Test 9-12-56

Company Phillips Petroleum Co. Lease Mexico Well No. 3

Unit A Sec. 18 Twp. 20S Rge. 37E Purchaser Permian Basin Pipeline

Casing 7" Wt. 24.4 I.D. 6.37" Set at 3752' Perf. 3305' To 3450'

Tubing 2-1/2" Wt. 6.5 I.D. 2.441" Set at 3847.5' Perf. 3839' To 3844'

Gas Pay: From 3305' To 3480 L 3305 xG .670 -GL 2214 Bar.Press. 13.2

Producing Thru: Casing Tubing _____ Type Well gas-oil dual

Date of Completion: 2-4-55 Packer 3475' Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. _____

CO₂ - 2.46%
N₂ - 0.96%

OBSERVED DATA

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

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
SI								953.9	73-1/4
1.	4	1.5	457.1	4.6	102			815.0	23-3/4
2.	4	1.5	460.0	10.7	96			758.0	24
3.	4	1.5	464.6	25.2	99			664.4	24
4.	4	1.5	456.7	43.0	63			580.7	24
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.	15.26	46.51		.9618	2.2822	1.040	678
2.		71.15		1.0039		1.036	1089
3.		109.7		1.0010		1.035	1655
4.		142.2		0.9962		1.032	2152
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 153,400 cf/bbl.
 Gravity of Liquid Hydrocarbons _____ deg.
 F_c .865 (1-e^{-s}) .141
 Specific Gravity Separator Gas -
 Specific Gravity Flowing Fluid .67
 P_c 967.1 P_c² 935.3

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.	828.2	685.9	0.5013	0.2513	0.0477	685.9	249.4	828.2	.86
2.	763.2	582.3	0.9420	0.8874	0.1251	582.3	352.7	763.2	.79
3.	677.6	459.1	1.4316	2.047	0.2886	459.4	475.9	677.6	.70
4.	593.6	352.7	1.8615	3.460	0.4879	353.3	582.1	594.3	.61
5.									

Absolute Potential: 3,456 MCFPD; n 1.0 limited
 COMPANY Phillips Petroleum Co.
 ADDRESS Box 2105, Hobbs, N.M.
 AGENT and TITLE W. A. Roberts, District Production Supt.
 WITNESSED _____
 COMPANY _____

retact

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 .