

NEW MEXICO OIL CONSERVATION COMMISSION

Oct 21 3 09 PM '63

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Langlie-Mattix Formation Queen County Lea
Initial Annual Special X Date of Test 8-1/8-7-63
Company Tidewater Oil Co. Lease Goates Well No. 1 (Casing)
Unit F Sec. 24 Twp. 25 Rge. 37 Purchaser El Paso Natural Gas Company
Casing 7" Wt. 20.0 I.D. Set at 2950 Perf. To
Tubing 2" Wt. 4.7 I.D. Set at 3267 Perf. To
Gas Pay: From 2950 To 3300 L 2950 xG .668 -GL 1971 Bar.Press. 13.2
Producing Thru: Casing X Tubing Type Well G. G. Dual
Date of Completion: February 3, 1951 Backer 4600 Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp.

OBSERVED DATA

Tested Through (Prover) (Choke) (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								373		72
1.	4	.500	251	2.89	89			353		24
2.	4	.500	252	6.76	88			337		24
3.	4	.50	250	12.25	92			324		24
4.	4	.500	249	32.49	84			281		24
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.	1.525	27.63		.9732	.9477	1.023	39.74
2.	1.525	42.34		.9741	.9477	1.023	60.98
3.	1.525	56.78		.9706	.9477	1.021	81.31
4.	1.525	92.30		.9777	.9477	1.022	133.3
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.
Gravity of Liquid Hydrocarbons deg.
P_c .707 (1-e^{-s}) .127
Specific Gravity Separator Gas
Specific Gravity Flowing Fluid
P_c 386.2 P_c² 149.1

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.	366.2	134.1	Negligible			134.1	15.0		
2.	350.2	122.6	Negligible			122.6	26.5		
3.	337.2	113.7	Negligible			113.7	35.4		
4.	294.2	86.5	Negligible			86.5	62.6		
5.									

Absolute Potential: 285 MCFPD; n .865

COMPANY Tidewater Oil Co.
ADDRESS Box 249, Hobbs, N. Mex.
AGENT and TITLE C. L. Wade, Area Supt.
WITNESSED Jack T. Littlefield
COMPANY El Paso Natural Gas Co.

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 600 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 .