

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queen County Lea
Initial _____ Annual _____ Special x Date of Test 4-12 to 4-19-63
Company Shell Oil Company Lease State - (7) Well No. 1
Unit E Sec. 7 Twp. 19S Rge. 37E Purchaser El Paso Natural Gas Company
Casing 5 1/2" Wt. 15.5# I.D. 4.976 Set at 3669 Perf. _____ To _____
Tubing 2" Wt. 4.7# I.D. 1.995 Set at 3878 Perf. 3866 To 3872
Gas Pay: From 3866 To 3872 L 3866 xG .690 -GL 2667 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing x Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 9-20-53 Packer 3650 Reservoir Temp. _____

OBSERVED DATA

Tested Through (~~Pressure~~) (~~Stroke~~) (Meter) Type Taps Flgs.

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Pressure) (Line) Size	(Stroke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						722				72
1.	4	1.500	466	1.00	77	674				24
2.	4	1.500	528	2.56	78	620				24
3.										
4.										
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.	13.99	21.89	479.2	.9840	.9325	1.052	295.6
2.	13.99	37.22	541.2	.9831	.9325	1.057	504.5
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons None deg.
F_c 9.936 (1-e^{-s}) .168

Specific Gravity Separator Gas .690
Specific Gravity Flowing Fluid None
P_c 735.2 P_c² 540.5

No.	P_t 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.	687.2	472.2	2.939	8.638	1.45	473.6	66.9	688.2	926.1
2.	633.2	400.9	5.013	25.130	4.22	405.1	135.6	636.5	261.1
3.									
4.									
5.									

Absolute Potential: 1.440 MCFPD; n .758

COMPANY Shell Oil Company
ADDRESS P. O. Box 1858, Roswell, New Mexico
AGENT and TITLE A. L. Ellard - Gas Tester *A. L. Ellard*
WITNESSED J. B. Murray
COMPANY El Paso Natural Gas Company

REMARKS

Unable to obtain but two flow rates due to compressor failure; therefore, the previous slope of .758 was drawn through these two rates.

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 .