

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Bumont Formation Yates County Lea
Initial Annual Special x Date of Test 4-26 to 5-3-63
Company Shell Oil Company Lease Devonian State Well No. 1
Unit G Sec. 20 Twp. 21S Rge. 36E Purchaser El Paso Natural Gas Company
Casing 7" Wt. 23# I.D. 6.336 Set at 3830 Perf. 3060 To 3620
Tubing 2 1/2" Wt. 6.5# I.D. 2.441 Set at 3904 Perf. To
Gas Pay: From 3060 To 3620 L 3060 xG .674 -GL 2062 Bar. Press. 13.2
Producing Thru: Casing x Tubing Type Well G.O. Dual*
Date of Completion: 9-2-53 Packer 3710 Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp.

OBSERVED DATA

*Oil zone temporarily abandoned.

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

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(Pressure) (Line) Size	(Stroke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						Packer				
1.	4	1.750	560	3.76	75			808		72
2.	4	1.750	630	6.76	77			747		24
3.	4	1.750	582	17.64	75			739		24
4.	4	1.750	595	21.16	69			694		24
5.								673		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.	19.27	57.46	573.2	.9859	.9435	1.057	1.088
2.	19.27	65.94	643.2	.9840	.9435	1.064	1.255
3.	19.27	102.47	595.2	.9859	.9435	1.061	1.948
4.	19.27	113.44	608.2	.9915	.9435	1.066	2.179
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons None deg.
F_c .865 (1-e^{-s}) .132

Specific Gravity Separator Gas .674
Specific Gravity Flowing Fluid None
P_c 821.2 P_c² 674.4

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.	760.2	577.9	.9411	.8857	.1169	578.0	96.4	760.3	92.6
2.	752.2	565.8	1.085	1.177	.1554	565.9	103.5	752.3	91.6
3.	707.2	500.1	1.685	2.841	.3750	500.5	173.9	707.5	86.1
4.	686.2	470.9	1.885	3.553	.4690	471.4	203.0	686.6	83.6
5.									

Absolute Potential: 6,300 MCFPD; n .883COMPANY Shell Oil CompanyADDRESS P. O. Box 1858, Roswell, New MexicoAGENT and TITLE A. L. Ellard - Gas TesterWITNESSED J. B. MurrayCOMPANY El Paso Natural Gas Company

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 .