

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Tubb Gas Formation Tubb County Lea
Initial Annual Special X Date of Test 10-25 to 11-1-63
Company Shell Oil Company Lease Sarkeys Well No. 1
Unit M Sec. 23 Twp. 21-S Rge. 37-E Purchaser El Paso Natural Gas Company
Casing 5 1/2 Wt. 15.5 I.D. 4.976 Set at 6602 Perf. 5960 To 6200
Tubing 2 Wt. 4.7 I.D. 1.995 Set at 6306 Perf. To
Gas Pay: From 5960 To 6200 L 5960 xGMix .702 -GL 4184 Bar.Press. 13.2
Producing Thru: Casing X Tubing Type Well G. O. Dual
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 12-17-53 Packer 6306 Reservoir Temp.

OBSERVED DATA

Tested Through (Pressure) (Stroke) (Meter) Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Line) Size	(Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI								1449		72
1.	4	1.250	540	12.25	90			1317		24
2.	4	1.250	556	13.69	78			1169		24
3.	4	1.250	563	26.01	72			1123		24
4.	4	1.250	592	37.21	68			1126		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.	9.643	82.32	553.2	.9723	.9312	1.051	755.3
2.	9.643	88.27	569.2	.9831	.9312	1.060	825.9
3.	9.643	122.42	576.2	.9887	.9312	1.064	1,156
4.	9.643	150.07	605.2	.9924	.9312	1.070	1,430
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 233,707 cf/bbl. Specific Gravity Separator Gas .692
Gravity of Liquid Hydrocarbons 68.0 deg. Specific Gravity Flowing Fluid .7093
F_c 1.758 (1-e^{-S}) .250 P_c 1462.2 P_c 2138.0

No.	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.	1130.2	1769.4	1.328	1.763	.441	1769.8	368.2	1130.3	91.0
2.	1182.2	1397.6	1.452	2.108	.527	1398.1	739.9	1182.4	80.9
3.	1136.2	1290.9	2.032	4.129	1.032	1291.9	846.1	1136.6	77.7
4.	1139.2	1297.8	2.514	6.320	1.580	1299.4	838.6	1139.9	77.9
5.									

Absolute Potential: 3,600 MCFPD; n 1.000COMPANY Shell Oil CompanyADDRESS P. O. Box 1858, Roswell, New MexicoAGENT and TITLE A. L. Ellerd - Gas TesterWITNESSED L. D. SouthernCOMPANY El Paso Natural Gas Company

REMARKS

Slope greater than 1.000, a slope of 1.000 drawn through highest rate of flow.

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 .

Nov 20 10 32 AM '63
HOBBS OFFICE O.C.C.

GAS WELL BACK PRESSURE CURVE

County LEA. Field BLINEBRY GAS
Operator SHELL OIL COMPANY
Lease SARKEYS Well No. 1
Volume 3,600 MCF/24 hr.
Date NOVEMBER 1, 1963

