

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Alibon Gas Formation Alibon County Lea
Initial X Annual _____ Special _____ Date of Test 8-27-65
Company Shell Oil Company Lease Argo "A" Well No. 12
Unit E Sec. 22 Twp. 21 S Rge. 37 E Purchaser None
Casing 5-1/2" Wt. 17.0 I.D. 4.892 Set at 8088 Perf. 5913 To 5938
Tubing 2" Wt. 4.7 I.D. 1.995 Set at 5902 Perf. _____ To _____
Gas Pay: From 5913 To 5938 L 5902 xGL 1.805 -GL 4751 Bar. Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: _____ Packer 5896 Reservoir Temp. _____
Re-classified 7-1-65 from oil to gas.

OBSERVED DATA

Tested Through (Gauge) (Gauge) (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						1262		Packer		72
1.	4	1.250	55	80.0	84	1184				1
2.	4	2.000	55	15.0	80	1171				1
3.	4	2.000	55	42.0	76	1102				1
4.	4	2.500	60	34.0	72	998				1
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 ✓	73.86	68.2	.9777 ✓	.9193 ✓		640.1 ✓
2.	25.58 ✓	31.98	68.2	.9813 ✓	.9193		737.9 ✓
3.	25.58 ✓	33.32	68.2	.9850 ✓	.9193		1,239 ✓
4.	42.13 ✓	49.89	73.2	.9887 ✓	.9193		1,910 ✓
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 31.438 cf/bbl.
Gravity of Liquid Hydrocarbons 35.4 API deg.
F_c 9.936 (1-e^{-s}) .279

Specific Gravity Separator Gas .710
Specific Gravity Flowing Fluid 8478
P_c 1275.2 P_c 1626.1

No.	$\frac{P_w}{P_t}$ (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	$\frac{P_w}{P_c}$
1.	1197.2	1433.3	6.360	40.450	11.286	1444.6	181.5	1201.9	96.2
2.	1184.2	1402.3	7.332	53.758	14.998	1417.3	208.8	1190.5	93.3
3.	1115.2	1243.7	12.311	151.561	42.286	1286.0	340.1	1134.0	88.9
4.	1011.2	1022.3	18.978	360.164	100.486	1123.0	503.1	1059.7	83.1
5.									

Absolute Potential: 6.100 MCFPD; n 1.000
COMPANY Shell Oil Company
ADDRESS Western Division - P. O. Box 1509 - Midland, Texas 79704
AGENT and TITLE A. L. Ellard, Gas Tester
WITNESSED _____
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} = 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 .

GAS WELL BACK PRESSURE CURVE

County LEA Field BLINEBRY GAS
 Operator SHELL OIL COMPANY
 Lease ARGO "A" Well No. 12
 Volume 6,100 MCF/24 hr.
 Date AUGUST 27, 1965

