

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

1957 DEC 25 PM 2:43

Pool Jalnet Formation Yates County Lea

Initial Annual Special x Date of Test 1-14- to 1-18-57

Company Shell Oil Company Lease State A-36 Well No. 1

Unit D Sec. 36 Twp. 24 S Rge. 36 E Purchaser

Casing 5 1/2 Wt. 15.5 I.D. - Set at 2636 Perf. To

Tubing 2 Wt. 4.7 I.D. - Set at 2832 Perf. To

Gas Pay: From 2636 To 2834 L 2832 xG .710 -GL 2011 Bar.Press. 13.2

Producing Thru: Casing Tubing x Type Well Single
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 2-12-53 Packer None Reservoir Temp.

OBSERVED DATA

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

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.
	(Pressure) (Line) Size	(Glycer) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	
SI						1034		72
1.	4	1.250	240	18.2	50	890		24
2.	4	1.250	229	21.6	59	693		24
3.	4	1.250	246	29.7	65	525		24
4.	4	1.250	253	43.6	71	390		24
5.								

FLOW CALCULATIONS

No.	Coefficient F _{lg} (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	50.90		1.0098	.9193	1.034	472
2.	9.643	72.34		1.0010	.9193	1.029	661
3.	9.643	87.71		.9952	.9193	1.030	797
4.	9.643	107.65		.9896	.9193	1.030	972
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.

Gravity of Liquid Hydrocarbons deg.

F_c 9.936 (1-e^{-s}) .129

Specific Gravity Separator Gas .710

Specific Gravity Flowing Fluid

P_c 1047.2 P_c² 1096.6

No.	P _w P _t (psia)	P _c 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.	832.2	694.2	4.7	22.1	2.9	697.1	399.5	836	.817 x 10 ²
2.	795.2	638.7	6.6	43.6	5.6	504.3	592.3	710	.677 x 10 ²
3.	538.2	289.7	7.9	62.4	8.0	297.7	798.9	546	.522 x 10 ²
4.	403.2	162.6	9.7	94.1	12.1	174.7	921.9	418	.409 x 10 ²
5.									

Absolute Potential: 1.125 MCFPD; n .863

COMPANY Shell Oil Company

ADDRESS Box 1957, Hobbs, New Mexico

AGENT and TITLE E. C. Cabanis, District, Exploitation Engineer

WITNESSED Earl G. Smith

COMPANY 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 .