

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Yates County Lea

Initial _____ Annual _____ Special x Date of Test 3-29 to 4-5-63

Company Shell Oil Company Lease State "L" Well No. 2

Unit x Sec. 1 Twp. 21S Rge. 35E Purchaser El Paso Natural Gas Company

Casing 7" Wt. 24.0# I.D. 6.336 Set at 3730 Perf. 3050 To 3605

Tubing 2" Wt. 4.7# I.D. 1.995 Set at 3809 Perf. _____ To _____

Gas Pay: From 3050 To 3605 L 3050 xG .668 -GL 2037 Bar.Press. 13.2

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

Date of Completion: 2-5-53 Packer 3642 Reservoir Temp. _____

OBSERVED DATA

Tested Through (~~Packer~~) (~~Checker~~) (Meter)Type Taps Flgs.

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Packer) (Line) Size	(Checker) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI								683		72
1.	4	1.000	278	9.00	66	Packer		620		24
2.	4	1.000	225	22.09	58	Packer		574		24
3.	4	1.000	205	37.21	50	Packer		540		24
4.	4	1.000	206	47.61	53	Packer		519		24
5.										

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.	6.135	51.19	291.2	.9943	.9477	1.028	304.2
2.	6.135	72.54	238.2	1.0019	.9477	1.025	433.1
3.	6.135	90.11	218.2	1.0098	.9477	1.023	541.2
4.	6.135	102.16	219.2	1.0068	.9477	1.023	611.7
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.

Gravity of Liquid Hydrocarbons None deg.

F_c .744 (1-e^{-s}) .131

Specific Gravity Separator Gas .668

Specific Gravity Flowing Fluid None

P_c 696.2 P_c² 484.7

No.	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	P _w / F _c
1.	633.2	400.9	.225	.051	.007	400.9	83.8	633.2	90.9
2.	587.2	344.8	.321	.103	.013	344.3	139.9	587.2	84.3
3.	553.2	306.0	.401	.161	.021	306.0	173.7	553.2	79.4
4.	533.2	283.2	.453	.205	.027	283.2	201.5	532.2	76.4 76.6
5.									

Absolute Potential: 1.380 MCFPD; n .940

COMPANY Shell Oil Company

ADDRESS P. O. Box 1858, Roswell, New Mexico

AGENT and TITLE A. L. Ellerd - Gas Tester

WITNESSED J. B. Murray

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 .

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