

NEW MEXICO OIL CONSERVATION COMMISSION

HOURS OFFICE 000

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalisco Formation Vaca County Lea

Initial Annual Special X Date of Test 2-4 to 2-8-57

Company John M. Kelly Lease Shahan Well No. 3

Unit G Sec. 33 Twp. 28S Rge. 37E Purchaser El Paso Natural Gas

Casing 7" Wt. 20# I.D. Set at 3080 Perf. To

Tubing 2 3/8" Wt. 4.7# I.D. Set at 3210 Perf. To

Gas Pay: From 2510 To 2680 L 2512 xG .645 -GL 1620 Bar.Press. 13.2

Producing Thru: Casing X Tubing Type Well G. O. Dual
Single-Br lenhead-G. G. or G.O. Dual

Date of Completion: 10-25-53 Packer 2700 Reservoir Temp.

OBSERVED DATA

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

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(Pressure (Line) Size	(Shoke (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI								412		72
1.	4	1.000	262	1.69	60			360		24
2.	4	1.000	239	5.29	57			298		24
3.	4	1.000	239	7.84	63			280		24
4.	4	1.000	246	9.0	66			246		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	21.56		1.000	.9645	1.026	130
2.	6.135	36.51		1.0029	.9645	1.024	222
3.	6.135	44.45		.9971	.9645	1.023	262
4.	6.135	48.00		.9943	.9645	1.023	2.8
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Lry cf/bbl.
Gravity of Liquid Hydrocarbons deg.
F_c .707 (1-e^{-s}) .106

Specific Gravity Separator Gas .645
Specific Gravity Flowing Fluid
P_c 424.2 P_c² 180.8

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.	373.2	139.3	.09	.008	.0008	139.3	41.5	373.2	.69
2.	311.2	96.8	.16	.026	.0026	96.8	84.0	311.1	.73
3.	293.2	86.0	.19	.036	.0036	86.0	84.8	293.3	.69
4.	259.2	67.2	.20	.04	.0042	67.2	113.6	259.2	.61
5.									

Absolute Potential: 410MCFPD; n .785COMPANY John M. KellyADDRESS Pox 5671, Roswell, New MexicoAGENT and TITLE Sumeth A. M. Kelly Production SuperintendentWITNESSED Earl G. SmithCOMPANY El Paso Natural Gas

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} = 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 .