

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Rumont Formation Queen DATE NOV 19 AM 7:59 County Lea

Initial _____ Annual X Special _____ Date of Test 6-26-56

Company Cities Service Oil Co. Lease Laughlin "B" Well No. 5

Unit 0 Sec. 5 Twp. 20-S Rge. 37-E Purchaser Permian Basin Pipeline Company

Casing 5½" Wt. 15.5# I.D. 4.950" Set at 3713' Perf. 3207' To 3355'

Tubing 2-3/8" Wt. 4.7# I.D. 1.995" Set at 3366' Perf. _____ To _____

Gas Pay: From 3207' To 3355' L 3366' xG 0.670 -GL 2255' Bar.Press. 13.2#

Producing Thru: Casing _____ Tubing X Type Well single

Date of Completion: 9-13-53 Packer None Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. 94° Est.

CO₂ 2.40%, N₂ 1.81%

OBSERVED DATA

Tested Through (~~PERMANENT~~) (Meter)Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(PERMANENT) (Line) Size	(CHART) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						982.6		984.2		75½ SI
1.	4"	1.75"	454.3	8.9	65	873.9	65	898.7	65	24½
2.	4"	1.75"	456.2	16.0	64	837.2	64	877.3	64	23-3/4
3.	4"	1.75"	459.5	26.9	64	764.2	64	829.0	64	24
4.	4"	1.75"	451.5	46.9	67	638.8	67	754.4	67	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.	21.69	64.50	467.5	.9952	.9463	1.048	1381
2.	21.69	86.66	469.4	.9962	.9463	1.050	1861
3.	21.69	112.76	472.7	.9962	.9463	1.051	2423
4.	21.69	147.63	464.7	.9933	.9463	1.048	3053
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio dry gas cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c _____ (1-e^{-s}) _____

Specific Gravity Separator Gas .670
Specific Gravity Flowing Fluid _____
P_c 997.4 P_c 994.8

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 P _c
1.	911.9					831.6	163.2		
2.	890.5					793.0	201.8		
3.	842.2					709.3	285.5		
4.	767.6					589.2	405.6		
5.									

Absolute Potential: 5800 MCFPD; n .71193

COMPANY Permian Basin Pipeline Company

ADDRESS Hobbs, New Mexico

AGENT and TITLE R. L. West, Gas Engineer

WITNESSED R. O. Berg

COMPANY Cities Service Oil Company

REMARKS

ELVIS A. UTZ
GAS ENGINEER

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 .