

C/O F
G-192
MS-33
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test	☒ Initial ☐ Annual ☐ Special			Test Date	12/28/81		RECEIVED		
Company	Pogo Producing Company			Connection	None		JAN 15 1982		
Well	North Santa Fe			Formation	Atoka		O. C. D. ARTESIA, OFFICE		
Completion Date	12/22/81		Total Depth	12843'		Plug Back TD	12375'		
Elevation	3018' GL						Urquidez		
Casing Size	5"	WT. 18.0	d 4.276	Set At 12843'	Perforations:	From 11593' To 11634'		Well No. 1	
Tubing Size	2 3/8"	WT. 4.7	d 1.995	Set At 11445'	Perforations:	Open Ended To		Unit L 10 23s 28e	
Type Well	Single - Bradenhead - G.C. or G.O. Multiple				Packer Set At	11445'		County Eddy	
Producing thru	Tubing		Reservoir Temp. °F	60		Baro. Press. - P _a	13.2 New Mexico		
L 11614'	H -	G _a 0.5736	% CO ₂ 0.473	% N ₂ 0.580	% H ₂ S -	Prover 4.026	Meter Run F		
FLOW DATA									
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g. DWT	Temp. °F	Duration of Flow
SI							5945'	60	PACKER 72.0 hr
1.	4	4.5/64	1.250	490	12	88	5535		1.0 hr
2.	4	6/64	1.250	495	26	86	5030		1.0 hr
3.	4	7/64	1.250	500	53	79	4290		1.0 hr
4.	4	8/64	1.250	505	74	76	3622		1.0 hr
5.									
RATE OF FLOW CALCULATIONS									
NO.	Coefficient (1/4 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mscf/d		
1	7.469	77.71	503.2	0.9741	1.320	1.030	768.70		
2	7.469	114.95	508.2	0.9759	1.320	1.030	1139.17		
3	7.469	164.92	513.2	0.9822	1.320	1.033	1649.72		
4	7.469	195.82	518.2	0.9850	1.320	1.034	1966.30		
5									
NO.	F ₁	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio Dry Gas Mscf/ubl.				
1	0.75	548	1.60	0.942	A.P.I. Gravity of Liquid Hydrocarbons - Deg.				
2	0.75	546	1.60	0.942	Specific Gravity Separator Gas 0.5736 XXXXXXXXXX				
3	0.75	539	1.58	0.938	Specific Gravity Flowing Fluid XXXXXX				
4	0.77	536	1.57	0.935	Critical Pressure 675 P.S.I.A. - P.S.I.A.				
5					Critical Temperature 342 °R - °R				
P ₁ 7287.2 P ₂ 53103.3									
NO.	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 7.802$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.573$					
1	6804.2	46297.1	6806.2	AOI = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2746$					
2	6266.2	39265.3	13838.0						
3	5432.2	29508.8	23594.5						
4	4679.2	21894.9	31208.4						
5									
Absolute Flow 2746				Mscf @ 15.025		Angle of Slope @ 58° 13'		Slope, n 0.620	
Remarks: * BOTTOM HOLE PRESSURE @ (-8596) 11614' USED FOR PRESSURE CALCULATIONS									
Approved By Division Conducted By: JARREL WELL TESTING INC. Calculated By: Joe A. Coleman Checked By: Joe A. Coleman PE #2208									