

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 1/3/90							
Company Nearburg Producing Co.			Connection Pipeline								
Pool Quail Ridge Morrow, North			Formation Morrow								
Completion Date 10/26/89		Total Length 13563		Plug Back TD 0							
				Elevation 0							
Perm or Lease Name Buffalo 1K Fed Com			Well No. 1								
Coq. Size 5.500	Wt. 20.0	d 4.778	Set At 13563	Perforations: From 13353 To 13368							
Thq. Size 2.875	Wt. 6.5	d 2.441	Set At 12890	Perforations: From 0 To 0							
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single-Gas				Packer Set At 12890							
Producing Thru Tubing		Reservoir Temp. °F 199 ^o 13360		Mean Annual Temp. °F 60.0							
				Daro. Press. - P _g 13.2							
L 13360		H 13360	C _g .675	% CO ₂ .68	% N ₂ .56						
				% H ₂ S .00	Prover .0						
				Meter Run 3.1	Taps Flange						
FLOW DATA TUBING DATA BHP DATA											
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI							3500	65			72
1.	3.07 x 1.250			549	1.0	72.	3050	60	0	0	1
2.	3.07 x 1.250			549	4.0	78	2800	60	0	0	1
3.	3.07 x 1.250			564	10.2	78	2700	60	0	0	1
4.	3.07 x 1.250			564	17.6	73	2600	60	0	0	1
5.											
RATE OF FLOW CALCULATIONS											
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor F _{pv}	Rate of Flow Q, Mcd				
1	7.58	23.72	562.5	.9887	1.2172	1.0576	229				
2	7.58	47.43	562.5	.9831	1.2172	1.05521	454				
3	7.58	76.91	577.6	.9831	1.2172	1.0567	737				
4	7.58	100.94	577.6	.9877	1.2172	1.0588	974				
5											
NO.	P _h	Temp. °R	T _g	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.						
1	.84	532.	1.40	.894	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.						
2	.84	538.	1.42	.898	Specific Gravity Separator Gas _____ .675						
3	.86	538.	1.42	.896	Specific Gravity Flowing Fluid _____ .675						
4	.86	533.	1.41	.892	Critical Pressure _____ 671. P.S.I.A. _____ 671. P.S.I.A.						
5					Critical Temperature _____ 379. _____ 379. R						
P _c 3507.4 P _c ² 12302					(1) $\frac{P_c^2}{P_e^2 - P_w^2} = 2.2579$ (2) $\left[\frac{P_c^2}{P_e^2 - P_w^2} \right]^n = 2.2579$						
NO	P _e	P _w	P _e ²	P _w ²	AOF = Q $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = 2198$						
1	9383	3066	9402	2900							
2	7914	2817	7933	4369							
3	7361	2717	7383	4919							
4	6829	2618	6853	5448							
5											
Absolute Open Flow 2198 Mcd @ 15.025					Angle of Slope α 45.0		Slope, n 1.000				
Remarks: Choke size: 1st rate 6/64 2nd rate 7/64											
3rd rate 8/64 4th rate 9/64											
JAN 26 1990											
Approved By Division		Conducted By:		Calculated By:		Checked By:					
ORIGINAL SIGNED BY JERRY SEXTON		Bennett & Cathey		Matt Lee							
DISTRICT SUPERVISOR											