

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date May 12, 1981		May 12, 1981				
Company Willaim N. Beach				Location None							
Pool Quail Ridge				Formation Morrow				Unit			
Completion Date 5/12/81		Total Depth 13600'		Plug Back TD 13550'		Elevation 3719'KB		Farm or Lease Name Pennzoil Federal Com			
Cas. Size 5 1/2"	Wt. 20.0	d 4.778	Set At 13598	Perforations: From 13442 To 13460				Well No. 1			
Tbg. Size 2 7/8"	Wt. 6.5	d 2.441	Set At 13340	Perforations: Open Ended From To				Unit Sec. Twp. Page B 19 19s 34e			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single					Packer Set At 13304' & 13340'		County Lea				
Producing Thru Tbg		Reservoir Temp. °F 196@ 13330		Mean Annual Temp. °F 60		Basic Pressure - P _g 13.2		State New Mexico			
L 13451	H -	G _g 0.6742	% CO ₂ 0.606	% N ₂ 0.987	% H ₂ S -	Prover -	Meter Run 3.068	Type F			
FLOW DATA					TUBING DATA		CASING DATA		Duration of Flow		
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	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI							2610	74	PACKER		24 hrs.
1.	3.0	16/64	1.5	444	10	64	1294	72			1 hr
2.	3.0	20/64	1.5	444	16	66	1479	72			1 hr
3.	3.0	22/64	1.5	444	20	64	1082	72			1 hr
4.	3.0	24/64	1.5	444	24	62	840	72			1 hr
5.											
RATE OF FLOW CALCULATIONS											
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor F _{sp}	Rate of Flow Q, Mcfd				
1	11.13	67.62	457.2	0.9962	1.218	1.048	957.03				
2	11.13	85.33	457.2	0.9943	1.218	1.048	1208.20				
3	11.13	95.62	457.2	0.9962	1.218	1.048	1353.32				
4	11.13	104.75	457.2	0.9981	1.218	1.049	1486.78				
5											
NO.	R	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 18.960 Mcf/cbl.						
					A.P.L. Gravity of Liquid Hydrocarbons 54.6 Deg.						
1	0.68	524	1.39	0.911	Specific Gravity Separator Gas 0.6742		X X X X X X X X				
2	0.68	526	1.39	0.911	Specific Gravity Flowing Fluid X X X X X						
3	0.68	524	1.39	0.911	Critical Pressure 672 P.S.I.A.		- P.S.I.A.				
4	0.68	522	1.38	0.908	Critical Temperature 378 R		- R				
5											
P _c 4666.2		P _c ² 21773.4		(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.260$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.156$					
NO.	P _w *	P _w ²	P _c ² - P _w ²								
1	3450.2	11903.9	9869.5								
2	2695.2	7264.1	14509.3								
3	2119.2	4491.0	17282.4								
4	1737.2	3017.9	18755.5								
5											
Absolute Open Flow 1565 Mcfd @ 15.025				Angle of Slope 57° 49'				Slope, n 0.629			
Remarks: * BOTTOM HOLE PRESSURE @ (-9732) 13451' USED FOR PRESSURE CALCULATION											
66 BBL/Oil/Day											
112 BBL/H ₂ O day											
Approved By Division				Conducted By: F. Jones				Calculated By: D. Dickerson			
								Checked By: PE #2208 Joe A. Coleman			