

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 6-13-81			
Company Southland Royalty Company				Connection Southern Union Gathering					
Pool Basin				Formation Dakota				Unit	
Completion Date 5-21-81		Total Depth 7303'		Plug Back TD 7263'		Elevation 6132' GL		Farm or Lease Name Grenier "A"	
Gas Size 7.625 4.500		Wt. 26.40# 11.60# 10.50#		Set At 6.969 4.000 4.052		Perforations: From 7046' To 7212'		Well No. 4-E	
Test Time 2.375		Wt. 4.70#		Set At 1.995		Perforations: From To		Unit Sec. Twp. Rye. F 26 30N 10W	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single - G.G.						Packer Set At -----		County San Juan	
Producing Thru Tubing		Reservoir Temp. °F #		Mean Annual Temp. °F		Baro. Press. - P _a		State New Mexico	
L		H		G _g		% CO ₂		% N ₂	
						% H ₂ S		Prover	
								Meter Run	
								Taps	

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.	Temp. °F	Press. p.s.i.g.		Temp. °F
1.	2"	X	3/4"				1645		1650		1 hr
2.							166		772		2 hrs
3.							131		664		3 hrs
4.							88		532		
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 _{pv}	Rate of Flow Q, Mcfd
1	12.365		100.2	1.0000	.9258	1.0000	1147
2.							
3.							
4.							
5.							

NO.	P _t	Temp. °R	T _t	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1.										
2.										
3.										
4.										
5.										

$P_c = 1662.2$ $P_c^2 = 2,762,908.8$				$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.1201$		$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0888$	
NO	P _i ²	P _w	P _w ²	P _c ² - P _w ²			
1		544.2	296153.6	2466755.2			
2							
3							
4							
5							

$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1249$			
---	--	--	--

Absolute Open Flow 1249 Mcfd @ 15.025		Angle of Slope θ		Slope, n .75	
Remarks:					

Approved By Division	Conducted By: Dean Lingo	Calculated By: James Smith	Checked By: L.O. Van Ryan
----------------------	-----------------------------	-------------------------------	------------------------------