

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 11-09-81			
Company Southland Royalty Company				Connection Southern Union Gathering			
Pool Basin				Formation Dakota		Unit	
Completion Date 10-17-81		Total Depth 7181'		Plug Back TD 7135'		Elevation 6013' GR	
Farm or Lease Name Grenier				Well No. 23-E			
Csq. Size 4.500	Wt. 11.6#	d 4.000	Set At 7181'	Perforations: From To		Unit Sec. Twp. Rge. C 31 31N 11W	
Tbg. Size 2.375	Wt. 4.7#	d 1.995	Set At 7186'	Perforations: From 6902' To 7102'			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At -----		County San Juan	
Producing Thru Tubing		Reservoir Temp. °F θ		Mean Annual Temp. °F		Baro. Press. - P _a 12.2	
L		H		G _g .700		% 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"				1058		1827		
2.							145		700		1 hr
3.							105		585		2 hrs
4.							90		535		3 hrs
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		102.2	1.0000	.9258	1.0000	1170
2.							
3.							
4.							
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcft/bbl.
1.					A.P.I. Gravity of Liquid Hydrocarbons	_____ Deg.
2.					Specific Gravity Separator Gas	XXXXXXXXXX
3.					Specific Gravity Flowing Fluid	XXXXXX
4.					Critical Pressure	P.S.I.A. _____ P.S.I.A. _____
5.					Critical Temperature	R _____ R _____

P _c 1839.2 P _c ² 3382656.6			
NO.	P _i ²	P _w	P _w ² P _c ² - P _w ²
1.		547.2	299427.8 3083228.8
2.			
3.			
4.			
5.			

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.0971$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1254$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0720$$

Absolute Open Flow	1254	Mcfd @ 15.025	Angle of Slope θ	Slope, n .75
Remarks:				

Approved By Division	Conducted By: Steve McCament	Calculated By: James Smith	Checked By: L. O. Van Ryan
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