

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS RELEASE

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 7-09-82							
Company Southland Royalty Company					Connection Southern Union Gathering							
Pool Basin					Formation Dakota							
Completion Date 6-27-82			Total Depth 7326'		Plug Back TD 7285'		Elevation 6140' GR		Farm or Lease Name Grenier			
Perforations: From 4.500 To 4.500		Well No. 13E		Perforations: From 7117' To 7231'		Unit F		Sec. 20		Twp. 31N		
Perforations: From 7117' To 7231'		Unit F		Sec. 20		Twp. 31N		Rye 11W				
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single					Packer Set At -----					County San Juan		
Producing Thru Tubing			Reservoir Temp. °F 8		Mean Annual Temp. °F		Baro. Press. - P _a 12.2		State New Mexico			
L		H		Gg .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"				1960		1954		1 hr	
2.							285		804		2 hrs	
3.							147		702		3 hrs	
4.							126		598			
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, Mcfd					
1	12.365		138.2	1.0000	.9258	1.0000	1582					
2.												
3.												
4.												
5.												
NO.	P _t	Temp. °R	T _t	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.							
1					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.							
2.					Specific Gravity Separator Gas _____ X X X X X X X X							
3.					Specific Gravity Flowing Fluid _____ X X X X X							
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.							
5.					Critical Temperature _____ R _____ R							
$P_c = 1972.2$ $P_c^2 = 3889572.8$												
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.1059$ $(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0784$							
1		610.2	372344.0	3517228.8								
2												
3												
4												
5												
$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1706$												
Absolute Open Flow					1706 Mcfd @ 15.025				Angle of Slope θ		Slope, n .75	
Remarks:												
Approved By Division			Conducted By: Mick Ferrari			Calculated By: James Smith			Checked By: R. E. Fielder			