

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL RECEIVED

Type Test 4 Pt. ☒ Initial ☐ Annual ☐ Special				Test Date 9-16-81		OCT - 6 1981	
Company SOUTHLAND ROYALTY COMPANY				Connection None (To the Air)			
Foot <i>South millman morrow</i> Undesignated				Formation Morrow		Unit B ARTESIAL OFFSH	
Completion Date 9-6-81		Total Depth 11,270		Plug back TD 11,120		Elevation 3483.3' GR	
Casing Size 4 1/2		V.L. 12.7		Set At 11,267'		Perforations: From 10570 To 10892	
Tbg. Size 2 3/8		Wt. 4.7		Set At 10516		Perforations: From Open To Ended	
Type well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 10516		County Eddy	
Producing Tbr Tbg.		Reservoir Temp. °F 181 @ 10731		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2	
L 10516		H 10516		G _g .618		% CO ₂ .43	
				% N ₂ 2.95		% H ₂ S 0	
				Prover ---		Meter Run 2"	
						Taps Flg.	

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
51							2578				72 hr.
1.	4 X 1.000			330	2.0	100	2473				45 min.
2.	4 X 1.000			330	5.0	104	2367				1 hr.
3.	4 X 1.000			330	10.0	104	2212				1 hr.
4.	4 X 1.000			330	20.0	102	1987				1 hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{q_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{ov}	Rate of Flow Q, Mcfd
1	4.946	26.20	343.2	.9636	1.272	1.024	163
2	4.946	41.42	343.2	.9602	1.272	1.023	256
3	4.946	58.58	343.2	.9602	1.272	1.023	362
4	4.946	82.85	343.2	.9619	1.272	1.024	513
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	.51	560	1.55	.953	None		.618		671	362
2	.51	564	1.56	.955						
3	.51	564	1.56	.955						
4	.51	562	1.55	.953						
5										

NO.	P _c	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} =$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$
1	2591.2	2481.7	6158.8	555.5	2.440	2.011
2		2375.8	5644.4	1069.9		
3		2225.6	4953.3	1761.0		
4		2001.8	4007.2	2751.6		
5						

Absolute Gas Flow		1,032		Mcf @ 15.025		Angle of Slope		52		Slope, n		.783	
Remarks: No fluid made during test.													

Approved by Division	Conducted by: EL PASO EXPLORATION CO. Bob McMurray	Calculated by: Bob McMurray	Checked by: Ray Nokes
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