

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 5-29-85	
Company SOUTHLAND ROYALTY COMPANY		Connection Southland Gathering Company	
Pool PITCHFORK RANCH		Formation MORROW	
Completion Date 5-24-84		Total Depth 15,200'	Plug Back TD 15135
Elevation 3500 GL		Unit NM 20380	
Coq. Size 4 1/2	Wt. 15.10	Set At 15200	Perforations: From 14457 To 14474
Thg. Size 2 7/8	Wt. 6.50 8.7	Set At 14206	Perforations: From To
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single		Packer Set At 12400	County LEA
Producing Thru TUBING	Reservoir Temp. °F 200 @ 14500	Mean Annual Temp. °F 60	Baro. Press. - P _a 13.2
L 14466	H 14466	G _g 0.574	% CO ₂ 0.24
		% N ₂ 0.40	% H ₂ S 0
		Prover	Meter Run 4.026
			Taps FLANGE

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
SI	MONTHS										
1.	4.026 X 1.500			741.4	0.8	109	7940	96	Pkr.		
2.	4.026 X 1.500			747.1	1.3	109	6200	86	Pkr.		60 mins.
3.	4.026 X 1.500			751.7	2.0	113	4820	84	Pkr.		60 mins.
4.	4.026 X 1.500			756.1	2.1	114	3590	82	Pkr.		60 mins.
5.							2730	80	Pkr.		60 mins.

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	10.84	24.57	754.6	0.9560	1.320	1.0427	350.450
2	10.84	31.44	760.3	0.9560	1.320	1.0430	448.568
3	10.84	39.11	764.9	0.9526	1.320	1.0421	555.534
4	10.84	40.19	769.3	0.9518	1.320	1.0420	570.340
5.							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	DRY GAS	Mcf/bbl.
1	1.1308	569	1.6337	0.9198	A.P.I. Gravity of Liquid Hydrocarbons		
2	1.1394	569	1.6337	0.9193	Specific Gravity Separator Gas	0.574	XXXXXXX
3	1.1463	573	1.6451	0.9209	Specific Gravity Flowing Fluid	X: XXXX	
4	1.1528	574	1.6480	0.9210	Critical Pressure	667.3	P.S.I.A.
5					Critical Temperature	348.3	R

NO.	P _f	P _s	P _f ²	P _f ² - P _s ²	(1) $\frac{P_f^2}{P_f^2 - P_s^2} =$	(2) $\left[\frac{P_f^2}{P_f^2 - P_s^2} \right]^n =$
1	38604	8088.2	65419	33886	1.19221	1.09988
2	23360	6530.2	42644	56661		
3	12983	5085.2	25859	73446		
4	7525	4001.2	16010	83295		
5						

Absolute Open Flow		627.304	Mcf @ 15.025	Angle of Slope @	61.56°	Slope, n	0.5415
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Remarks: BHP MEASURED WITH AMERADA RPG-3 GUAGE NO. 32709, 0-11000 PSI CAPACITY

Approved By Division	Conducted By: TEFTELLER, INC.	Calculated By: D. A. WARREN, JR.	Checked By: <i>Samuel Roberts</i>
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JUN 17 1985

O.C.P.
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