

45F
File

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL RECEIVED BY

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 12-30-86		JAN 12 1987	
Company Southland Royalty Company			Connection None		
Pool 2. Burton Flat <i>Strawn</i>			Formation Strawn		
Completion Date 12-22-86		Total Depth 11,744'		Plug Back TD 10,695'	
Elevation 3325.4' GR		Farm or Lease Name Burton "4" Fed Com			
Ceq. Size 4 1/2	Wt. 11.6	d 11,744'	Set At 11,744'	Perforations: From 10,448 To 10,458'	
Tbg. Size 2 3/8	Wt. 4.7	d 1,995	Set At 10,291'	Perforations: From Open To end	
Type Well - Single - Brdenhead - G.C. or G.O. Multiple Single				Packer Set At 10,291'	
Producing Thru Tbg		Reservoir Temp. °F 180 @ 10,453'		Mean Annual Temp. °F 60	
Baro. Press. - P _a 13.2		State N.M.			
L 10,453	H 10,453	G _g .680	% CO ₂ .382	% N ₂ .370	% H ₂ S
Prover		Meter Run 4,026		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
SI							1435				162 Hrs
1.	4 x	1.250		290	11	70	1380				1 hr
2.	4 x	1.250		300	19.5	80	1330				1 hr
3.	4 x	1.250		300	35	70	1215				1 hr
4.	4 x	1.250		300	57	70	1177				1 hr
5.	4 x	1.250		510	56	75	1070				1 hr

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	7.469	57.75	303.2	.9905	1.213	1.032	535
2.	7.469	78.15	313.2	.9813	1.213	1.031	716
3.	7.469	104.70	313.2	.9905	1.213	1.033	971
4.	7.469	133.61	313.2	.9905	1.213	1.033	1238
5.	7.469	171.17	523.2	.9859	1.213	1.055	1613

NO.	R	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	.45	530	1.38	.939	78.287	
2.	.47	540	1.40	.941	64.7 @ 60	
3.	.47	530	1.38	.937	A.P.I. Gravity of Liquid Hydrocarbons	
4.	.47	530	1.38	.937	Specific Gravity Separator Gas	
5.	.78	535	1.39	.898	Specific Gravity Flowing Fluid	

NO.	P _s	P _w	P _w ²	P _w ² - P _s ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.598$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.827$
1	1920.6	1443.5	2083.7	148.6	$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.947$	Post ID-2 1-23-87 Comp + BK
2	1878.8	1413.6	1998.3	234.0		
3	1816.0	1368.3	1872.7	359.6		
4	1708.6	1290.5	1665.4	566.9		
5	1544.9	1161.7	1373.1	859.2		

Absolute Open Flow	2,947	Mcf @ 15.025	Angle of Slope @	57.750	Slope, n	.631
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Remarks: 2.7 BBls condensate - 1.3 Bbls water. Calculated from known bottom hole pressure. Static BHP 1990.9
PS = Flowing BHP

Approved By Division	Conducted By: Reggie Reston	Calculated By: Reggie Reston	Checked By:
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