

RECEIVED

Type Test: ☒ Initial ☐ Annual ☐ Special				Test Date: 2-3-83		FEB 25 1983	
Company: SOUTHLAND ROYALTY				Connection: AIR NEW WELL		O. C. D.	
Pool:				Formation: STRAWN		ARTERIA, OFFICE	
Completion Date: 1-31-83		Total Depth: 11675.		Plug Back: 10890.		Elevation: 3608.	
Well Size: 5.500		Well: 17.0		Set At: 11675.		Perforations: From 10485. To 10627.	
Tub. Size: 2.375		Well: 4.7		Set At: 10390		Perforations: From 0. To 0.	
Type Well - Single - (Wellhead - G.O. or A.O. Multiple)				Packer Set At: 10390.		County: EDDY	
Producing Through: TUBING		Reservoir Temp. °F: 194.0 10556.		Mean Annual Temp. °F: 60.0		Base. Press. - P _g : 13.2	
L: 10556.		H: 10556.		Q _g : 0.736		% CO ₂ : 0.78	
				% N ₂ : 4.61		% H ₂ S: 0.	
				Prover: 0.		Meter Run: 2.1	
						Type: FLANGE	

FLOW DATA						TUBING DATA		B.H.P. DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. in. H ₂ O	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	
51							2432		3684.	100.0
1	2.07 X 1.000			320.	2.5	50	2327	60	3665.	2.5/64
2	2.07 X 1.000			320.	4.2	52	2215	60	3626.	3.5/64
3	2.07 X 1.000			320.	7.0	50	1978	60	3535.	4.5/64
4	2.07 X 1.000			320.	15.5	50	1690	60	3397.	7.25/64
5										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h/P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super. Compress. Factor, F _{sp}	Rate of Flow Q, Mcf/D
1	4.95	28.86	333.2	1.0098	1.1656	1.0425	175.
2	4.95	37.63	333.2	1.0078	1.1656	1.0420	228.
3	4.95	48.29	333.2	1.0098	1.1656	1.0425	293.
4	4.95	71.87	333.2	1.0098	1.1656	1.0425	436.
5							

NO.	P ₁	Temp. °F	Q	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	0.50	510.	1.32	0.920			0.736	XXXXXXX	661.	387.
2	0.40	512.	1.32	0.921				XXXXXX		
3	0.50	510.	1.32	0.920						
4	0.50	510.	1.32	0.920						
5										

NO.	P ₁	P ₂	R ₁	R ₂	P ₂ ² - R ₂ ²
1	13529.	2689.	7232.	81.	
2	13244.	2658.	7067.	246.	
3	12590.	2587.	6693.	621.	
4	11629.	2479.	6148.	1166.	
5					

(1) $\frac{P_c^2}{P_2^2 - R_2^2} = 6.2724$

AOF = Q $\left[\frac{R_2^2}{P_2^2 - R_2^2} \right]^n = 1097.$

(2) $\left[\frac{R_2^2}{P_2^2 - R_2^2} \right]^n = 2.5160$

Post ID-2
3-4-83
Comp + RK

Absolute Open Flow: 1097.	Mcf @ 15.025	Angle of Slope: 63.3	Slope, n: 0.503
---------------------------	--------------	----------------------	-----------------

Remarks: BHP MEASURED WITH AMERADA PRESSURE ELEMENTS.

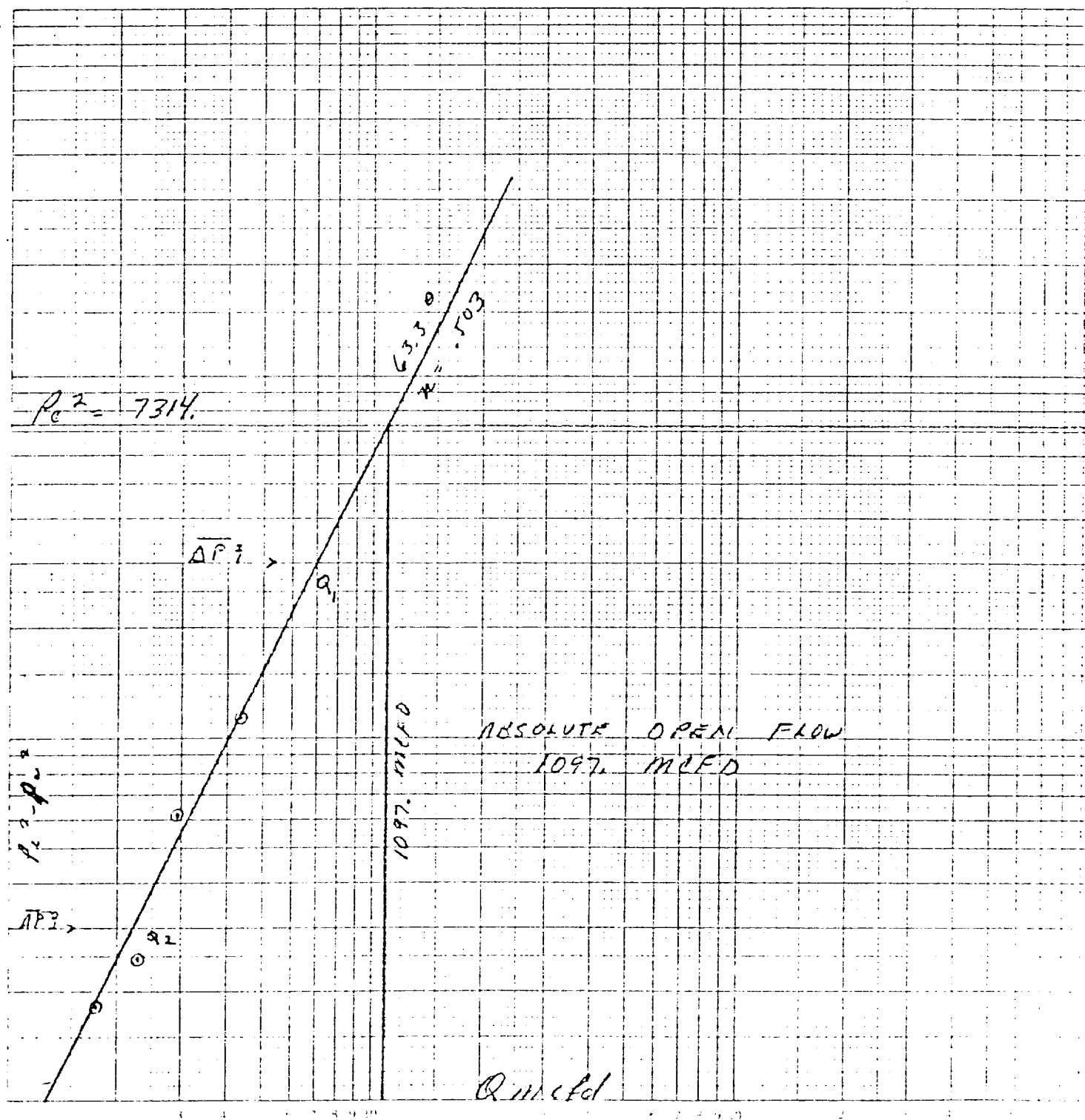
Initiated By Commission:	Conducted By: BO FAULKENBERRY	Calculated By: BENNETT & CATHEY	Checked By:
--------------------------	-------------------------------	---------------------------------	-------------

Heavy concrete &
Well No. 1
Unit N, S 4 T18E, R30E
Eddy County

2-3-83

to 7400

LOGARITHMIC CYCLES
OF THE FLOWING WELL



$$\Delta P_2 \quad P_2 - P_w = 3000$$

$$\Delta P_2 \quad P_2 - P_w = 300$$

$$Q_1 = 7063 \text{ mcf/d}$$

$$Q_2 = 2220 \text{ mcf/d}$$

$$\log Q_1 = 2.849$$

$$\log Q_2 = 2.346$$

$$m = .503$$