

c/5F
File

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MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 2-24-83		MAR 04 1983	
Company MESA PETROLEUM CO. ✓				Connection UNCONNECTED		O. C. D.	
Pool PECOS SLOPE ABO				Formation ABO		Unit ARTESIA, OFFICE	
Completion Date 2-24-83		Total Depth 4200'		Plug Back TD 4116'		Elevation 3583' RKB	
Casing Size 4 1/2		Wt. 10.5#		Set At 4200'		Perforations: From 3968 To 4004	
Tubing Size 2 3/8		Wt. 4.7#		Set At 3990'		Perforations: From OPEN ENDED To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE				Packer Set At NONE		County CHAVES	
Producing Thru TUBING		Reservoir Temp. °F 103 @ 4200'		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L		H		G _g .65		% CO ₂ 1	
				% N ₂ 1		% H ₂ S	
Prover 2" CRITICAL FLOW 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. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							945		945		72 hr SI
1.	2" X 1"			21		20	870	66	880		1 hour
2.	2" X 1"			56		35	670	72	710		1 hour
3.	2" X 1"			68		48	490	74	560		1 hour
4.	2" X 1"			70		52	365	72	455		1 hour
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	17.09	FLOW PROVER	34	1.041	1.24		750
2	17.09	FLOW PROVER	69	1.025	1.24		1499
3	17.09	FLOW PROVER	81	1.012	1.24		1737
4	17.09	FLOW PROVER	83	1.008	1.24		1772
5							

NO.	P _r	Temp. °R	T _r	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										
2										
3										
4										
5										

NO.	P _r	P _w	P _r ²	P _w ²	P _r ² - P _w ²
1	958	893	918	797	121
2		723		523	395
3		573		328	590
4		468		219	699
5					

(1) $\frac{P_r^2}{P_r^2 - P_w^2} = 1.3133$

AOF = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 2.050$

(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.1459$

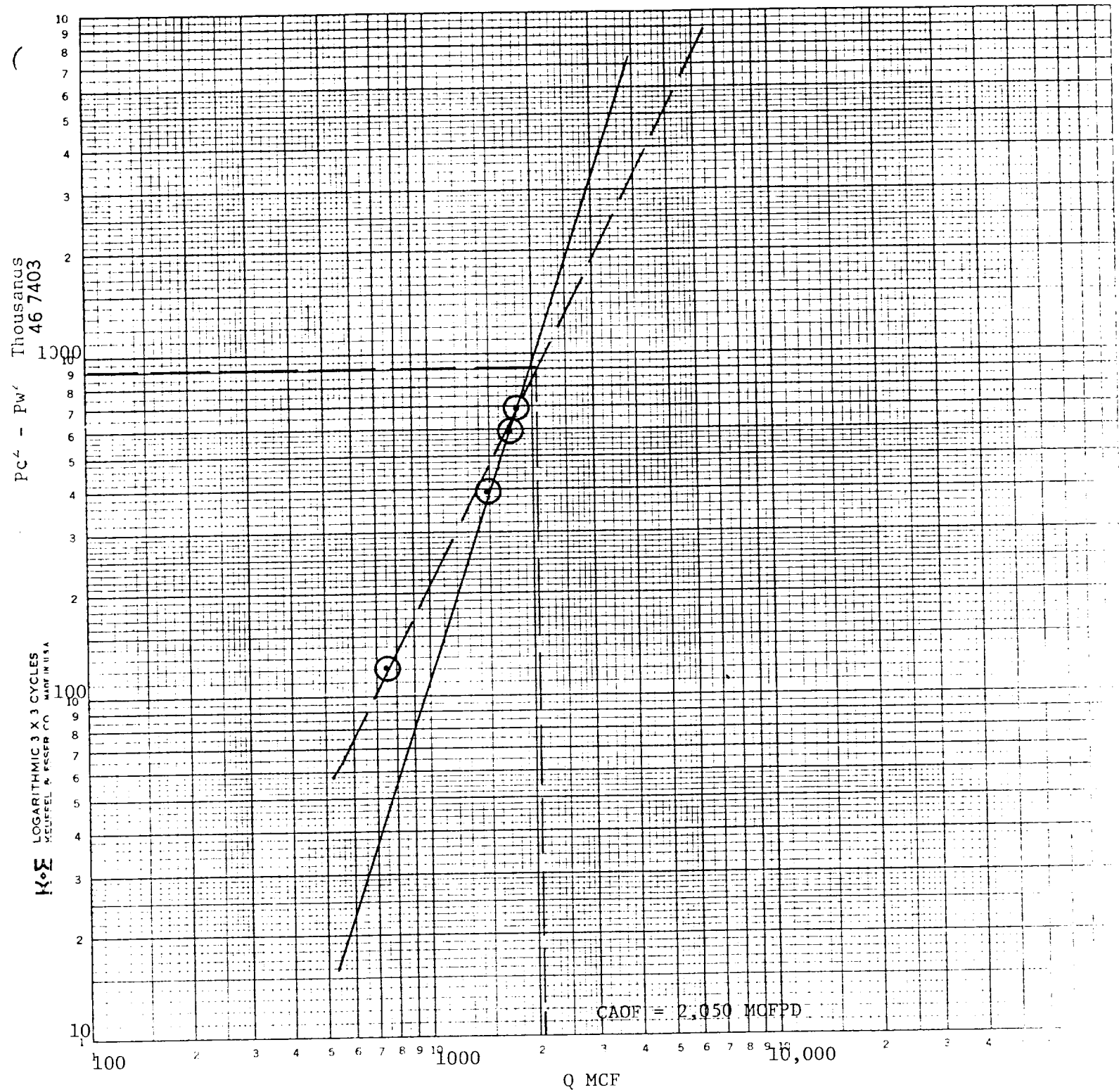
Post FD-2
3-11-83
Lamp & BK

Absolute Open Flow	2,050	Mcfd @ 15.025	Angle of Slope	63.5°	Slope, n	.5
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Remarks: Plot of P_r² - P_w² vs. Q yielded a straight line with a θ greater than 63.5°.
Drew 63.5° line through the highest point.

Approved By Division	Conducted By: JAMES CRAIG	Calculated By: E. L. BUTTROSS, JR.	Checked By:
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Mesa Petroleum Co.
 Bean #1
 Chaves County, New Mexico
 2-24-83



Assumed N = .5 and $\theta = 63.5^\circ$