

SEP 29 1983

Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS

ARTESIA OFFICE

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 9-24-83	
Company MESA PETROLEUM CO. ✓				Connection UNCONNECTED	
Pool WEST PECOS SLOPE ABO				Formation ABO	
Completion Date 9-17-83		Total Depth 3200		Plug Back TD 3151	
				Elevation 4182	
Farm or Lease Name CAROL FED COM					
Coq. Size 4 1/2	Wt. 10.5#	d 3200	Set At 3200	Perforations: From 2857 To 3005	
Trq. Size 2 3/8	Wt. 4.7#	d 3008	Set At 3008	Perforations: From OPEN ENDED To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE				Packer Set At NONE	
Producing Thru TUBING				County CHAVES	
Reservoir Temp. °F 90° @ 3200		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
State NEW MEXICO					
L 3008	H 3008	G ₂ .65	% CO ₂	% N ₂	% 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. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							865		890		72 hr SI
1.	2" x 1"			50		40	600	72	680		1 hr
2.	2" x 1"			60		50	445	72	555		1 hr
3.	2" x 1"			61		55	325	74	425		1 hr
4.	2" x 1"			62		58	240	78	320		1 hr
5.											

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	17.09	FLOW PROVER	63	1.020	1.24		1361
2	17.09	FLOW PROVER	73	1.010	1.24		1562
3	17.09	FLOW PROVER	74	1.005	1.24		1576
4	17.09	FLOW PROVER	75	1.002	1.24		1592
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2					Specific Gravity Separator Gas _____ X X X X X X X X
3					Specific Gravity Flowing Fluid _____ X X X X X
4					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5					Critical Temperature _____ R _____ R

P _c 903	P _w 815	
NO.	P _w	P _w ²
1	693	480
2	568	322
3	438	192
4	333	111
5		

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.1576$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.700$

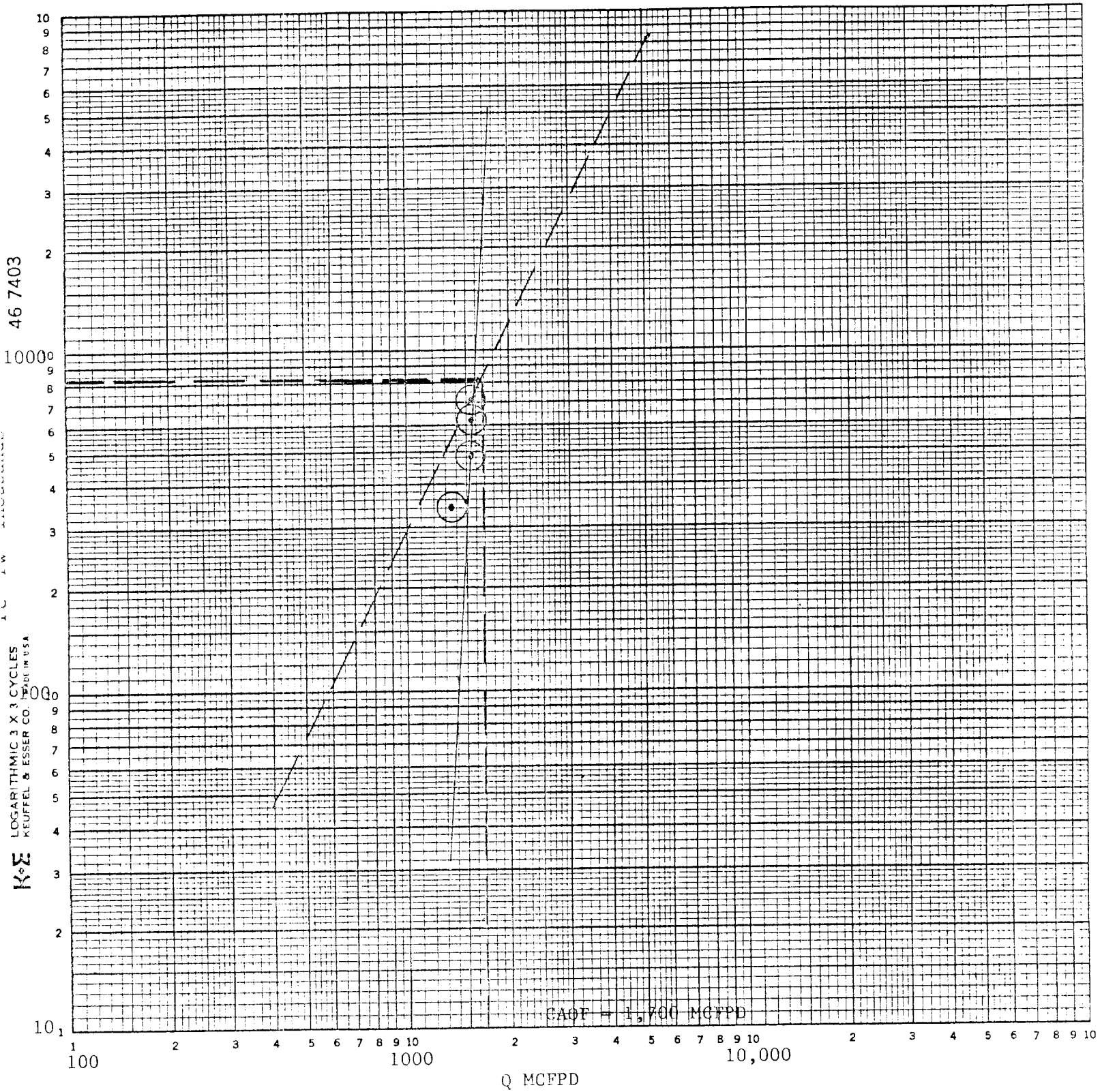
(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0759$

Absolute Open Flow 1.700	Mcf @ 15.025	Angle of Slope 63.5	Slope, n .5
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Remarks: Plot of P_c² - P_w² vs. Q yielded a straight line with a θ greater than 63.5°.
Drew 63.5° line through highest point.

Approved By Division	Conducted By: JAMES CRAIG	Calculated By: 9-28-83 E. L. BUTTROSS, JR.	Checked By:
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1 A PETROLEUM CO.
 CAROL FED COM NO. 7
 CHAVES COUNTY, NM
 9-24-83



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