

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 12-16-81		RECEIVED JAN 15 1982	
Company MESA PETROLEUM CO.				Connection UNCONNECTED					
Pool UNDESIGNATED ABO				Formation ABO				Unit O. C. D.	
Completion Date 12-16-81		Total Depth 4300'		Plug Back TD 4238'		Elevation 3899.6'		Point or Lease ARTESIA, OFFICE	
Csg. Size 4 1/2	Wt. 10.5#	d 	Set At 4287'	Perforations: From 3704 To 3896.5'		Well No. 4			
Tub. Size 2 3/8	Wt. 4.7#	d 	Set At 3602'	Perforations: From open ended To		Unit G	Set. 18	Twp. 5	Range 25
Type Well - Single - Brokenhead - G.O. or G.O. Multiple SINGLE				Packer Set At NONE		County CHAVES			
Producing Thru TUBING		Reservoir Temp. °F 102 @ 4300		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State NEW MEXICO	
L 	H 	G _g .65	% CO ₂ 1	% N ₂ 1	% H ₂ S 	Prover CHOKE	Meter Run 	Tag 	

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
51							930		870		72 hr. SI
1.	CHOKE		15/64	890		45	890	45	840		1 hr.
2.	COEFF.		20/64	805		60	805	60	785		1 hr.
3.			24/64	670		70	670	70	700		1 hr.
4.			29/64	550		70	550	70	635		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. Comp. Factor, F _{pv}	Rate of Flow Q, Mscf
1	.9165	CHOKE	903	1.015	1.240		1041
2	1.645	CHOKE	818	1.000	1.240		1669
3	2.388	CHOKE	683	.9905	1.240		2003
4	3.460	CHOKE	563	.9905	1.240		2393
5.							

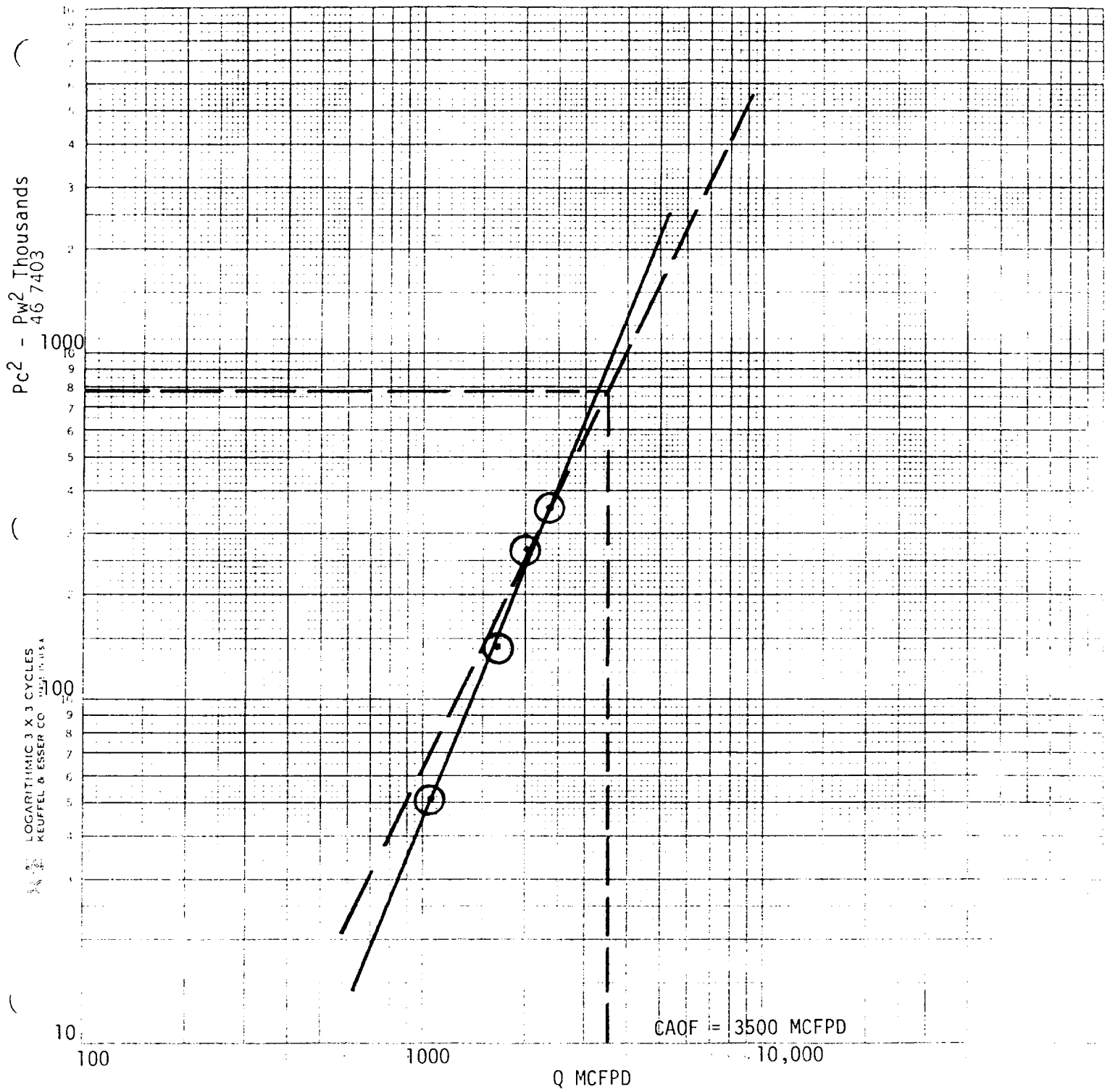
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mscf/Std.
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.					Specific Gravity Separator Gas _____ X X X X X X X X
3.					Specific Gravity Flowing Fluid _____ X X X X X
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5.			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

P _c 883	P _c ² 780	$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 2.1666$ $(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.4719$ $AQF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3500$		
NO.	P _w		P _w ²	P _c ² - P _w ²
1	853		728	52
2	798		637	143
3	713		508	272
4	648		420	360

Absolute Open Flow	3500	Mscf @ 15.025	Angle of Slope θ 63.5°	Slope, n .5
--------------------	------	---------------	------------------------	-------------

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 Commission	Conducted By: JAMES CRAIG	Calculated By: <u>12-15-82</u> E.L. BUTTROSS, JR.	Checked By:
------------------------	------------------------------	--	-------------



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