

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

Form C-122
Revised 9-1-65

RECEIVED

C/SF

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 7-1-81		JUL 17 1981	
Company MESA PETROLEUM CO.			Connection UNCONNECTED		
Pool UNDESIGNATED ABO			Formation ABO		Unit
Completion Date 7-1-81		Total Depth 3420'	Plug Back TD 3359'	Elevation 4154'	Farm or Lease Name BARN FEDERAL
Csg. Size 4 1/2"	Wt. 10.5	Set At 3405'	Perforations: From 2842' To 2925'		Well No. 2
Tbg. Size 2 3/8"	Wt. 4.7	Set At 2926'	Perforations: From OPEN ENDED TO		Unit Sec. Twp. Rge. F 12 8S 22E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE			Packer Set At NONE		County CHAVES
Producing Thru TUBING		Reservoir Temp. °F 95° @ 3420'	Mean Annual Temp. °F 60	Baro. Press. - P _a 13.2	State NEW MEXICO
L 2926	H 2926	G _g .65	% CO ₂ 1	% N ₂ 3	% H ₂ S Prover 2" ORIFICE WELL TESTER

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							760		775		72 HR SI
1.	2" ORIFICE	3/4"	11.5	-	80	630	80	650	-	-	1 HR
2.	WELL	3/4"	16.5	-	80	510	80	525	-	-	1 HR
3.	TESTER	3/4"	18	-	80	390	80	400	-	-	1 HR
4.		3/4"	18.5	-	80	280	80	280	-	-	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	265	2" ORIFICE		.9813	.9608	-	250
2	331	WELL TESTER		.9813	.9608	-	312
3	350			.9813	.9608	-	330
4	356			.9813	.9608	-	336
5							

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

NO.	P _t ²	P _w ²	P _w ²	P _c ² - P _w ²
1		650	423	178
2		525	276	325
3		400	160	441
4		280	78	523
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.1491$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 350$

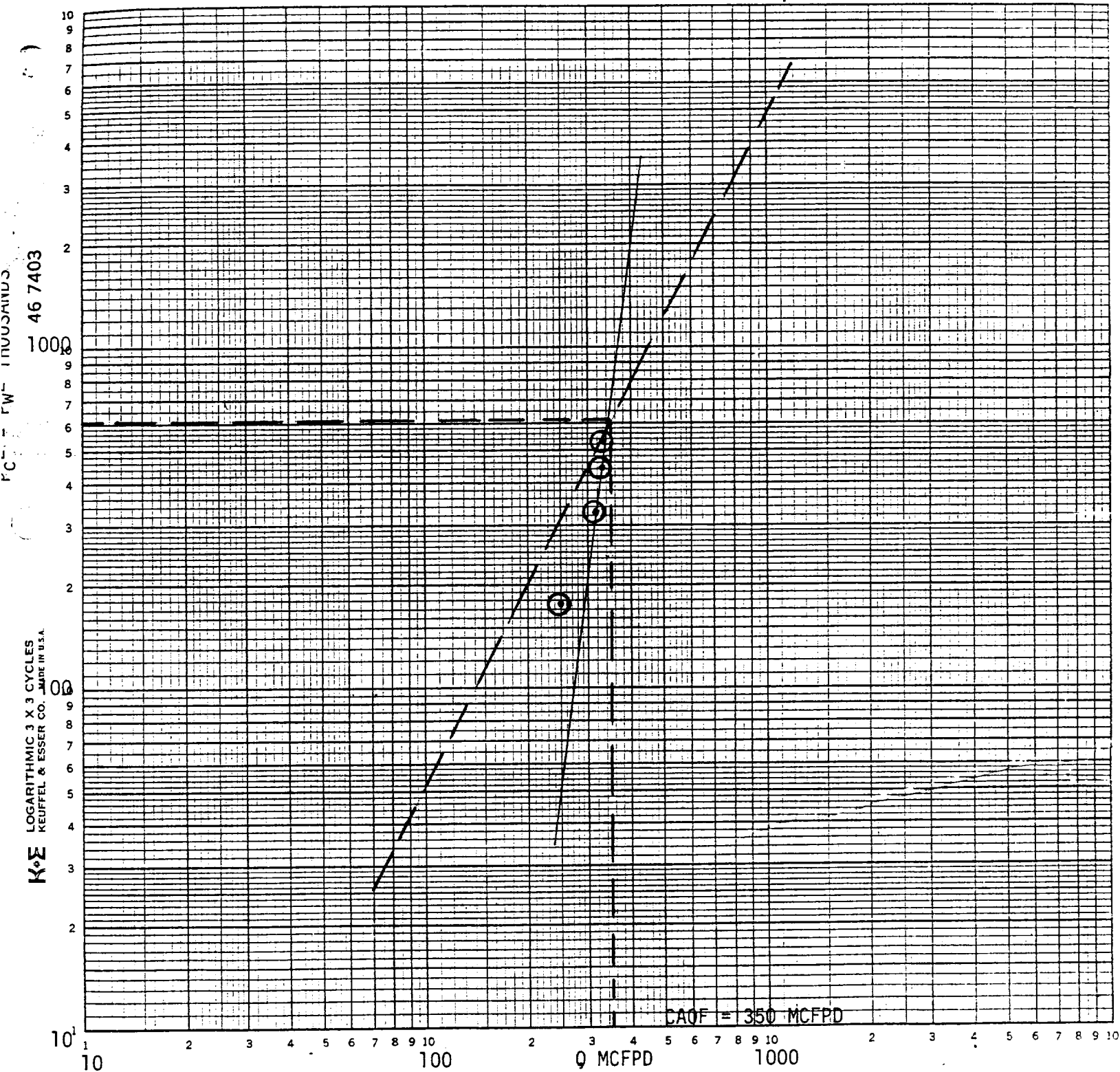
(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0719$

Absolute Open Flow _____ 350 _____ Mcfd @ 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 Commission:	Conducted By: JAMES CRAIG	Calculated By: E. L. BUTTROSS, JR.	Checked By:
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MESA PETROLEUM CO.
 BARN FEDERAL NO. 2
 SEC 12, T8S, R22E
 CHAVES CO., NEW MEXICO
 7-1-81



ASSUMED $\theta = 63.5^\circ$ and $n = .5$. ACTUAL θ GREATER THAN 63.5°