

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

Form C-122
Revised 9-1-65

RECEIVED

SEP 22 1981

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 8-24-81		SEP 22 1981	
Company Mesa Petroleum Co. ✓			Connection UNCONNECTED		O. C. D. ARTESIA, OFFICE
Pool DIAMOND MOUND <i>Atoka</i>			Formation ATOKA MORROW		Unit
Completion Date 8-24-81		Total Depth 9210'	Plug Back TD 9126'	Elevation 3698'	Farm or Lease Name WILLIAMSON FED COM
Csg. Size 4 1/2"	Wt. 10.5&11.6#	Set At 9206'	Perforations: From 8916' To 9020'		Well No. 2
Tub. Size 2 3/8"	Wt. 4.7#	Set At 8763'	Perforations: From OPEN ENDED To		Unit Sec. Twp. Rge. K 12 16S 27E
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE			Packer Set At NONE		County EDDY
Producing Thru TUBING		Reservoir Temp. °F 135° @ 9210'	Mean Annual Temp. °F 60	Baro. Press. - P _a 13.2	State NEW MEXICO
L 8763'	H 8763'	G _g .658	% CO ₂ 2	% N ₂ 1	% H ₂ S -
Prover -		Meter Run 4"	Taps FLANGE		

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							2420		2440		1/2 HR SI
1.	4 X 1.5			425	2.5	62	2260	74	2270		1 HR
2.	4 X 1.5			428	5.5	85	2000	74	2010		1 HR
3.	4 X 1.5			365	8.5	72	1750	76	1790		1 HR
4.	4 X 1.5			330	13	85	1450	76	1510		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	10.84	33.098	438.2	.9981	1.233	1.051	464
2	10.84	49.2605	441.2	.9768	1.233	1.043	671
3	10.84	56.6983	378.2	.9887	1.233	1.040	779
4	10.84	66.7952	343.2	.9768	1.233	1.038	905
5							

NO.	F _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.	.65	522	1.47	.905	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.	.65	545	1.47	.920	Specific Gravity Separator Gas _____ X X X X X X X X
3.	.56	532	1.43	.925	Specific Gravity Flowing Fluid _____ X X X X X
4.	.51	545	1.47	.928	Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature _____ F _____ F

NO.	F _c	F _w	F _w ²	F _c ² - F _w ²
1.		2283	5212	805
2.		2023	4093	1924
3.		1803	3251	2766
4.		1523	2320	3697
5.				

(1) $\frac{F_c^2}{F_c^2 - F_w^2} = 1.6275$

ACF = C $\left[\frac{F_c^2}{F_c^2 - F_w^2} \right]^n = 1200$

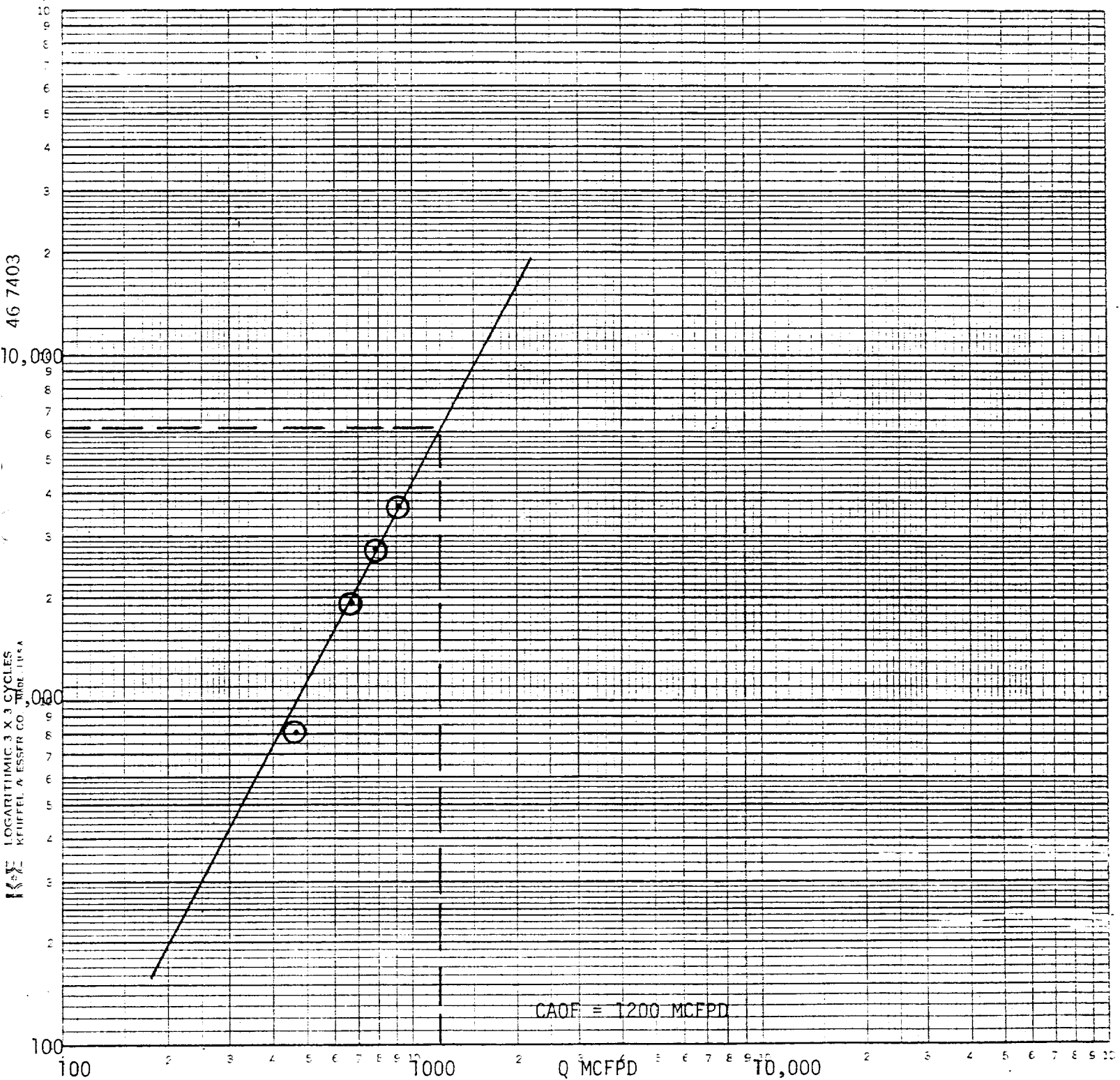
(2) $\left[\frac{F_c^2}{F_c^2 - F_w^2} \right]^n = 1.2882$

Absolute Open Flow	1200	Mcfd @ 15.025	Angle of Slope @	62.5°	Slope, n	.52
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Remarks:

Approved By Commission:	Conducted By: JAMES CDATC	Calculated By: F I RUITROSS JR	Checked By:
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MESA PETROLEUM CO.
 WILLIAMSON FEDERAL COM NO. 2
 SEC 12, T16S, R27E
 EDDY COUNTY, NEW MEXICO
 8-24-81



$$N = 1/\text{SLOPE} = \frac{\text{LOG } Q_2 - \text{LOG } Q_1}{\text{CYCLE}} = \frac{\text{LOG } 1550 - \text{LOG } 465}{\text{CYCLE}} = 3.19 - 2.67 = .52$$

$$\theta = 62.5^\circ$$