

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Revised 9-1-65

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special Test Date 3-30-81
 Company Mesa Petroleum Co. Connection Unconnected
 Well No. Undesignated Abo Formation Abo Unit O. C. D. ARTESIA, OFFICE
 Completion Date 3-30-81 Total Depth 3500' Plug Back TD 3441' Elevation 4107' Farm or Lease Name Salt Federal
 Casing Size 4 1/2" Wt. 10.5# Set At 3500' Perforations: From 2918' To 3052' Well No. 1
 Tubing Size 2 3/8" Wt. 4.7# Set At 3003' Perforations: From Open End To Unit Sec. Twp. Rge. N 8 8S 23E
 Type Well - Single - Bradenhead - G.C. or G.O. Multiple Packer Set At None County Chaves County
 Producing Thru Tubing Reservoir Temp. °F 87°@ 3500' Mean Annual Temp. °F 60 Baro. Press. - P_a 13.2 State New Mexico
 L 3003' H 3003' Gg .65 % CO₂ 4 % N₂ 4 % H₂S 2" Orifice Well Tester Prover Meter Run Taps

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
O.	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
1.	2"						1015		1020	72 hr +
2.	Orifice		1			80	980	80	980	1/2 hr
3.	Well		2			80	935	80	935	1/2 hr
4.	Tester		8.5			80	795	80	790	1/2 hr
5.			14			80	560	80	570	1/2 hr

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.	218	2" Orifice Well Tester	.9813	.9608			206
2.	311		.9813	.9608			293
3.	685		.9813	.9608			646
4.	924		.9813	.9608			871

NO.	P _t	Temp. °R	T _t	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.										

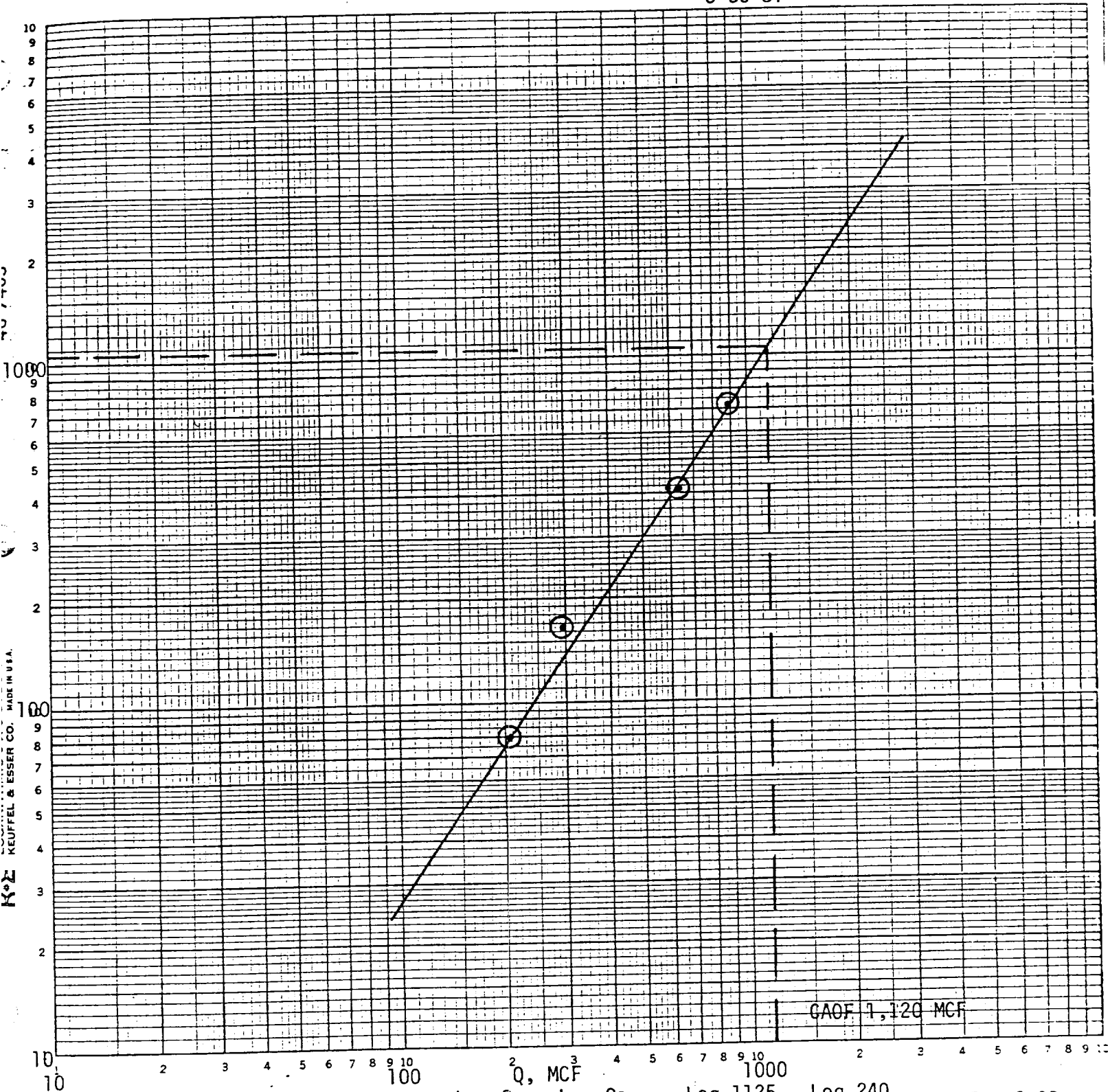
S.	P _c 1020		P _c ² 1040		(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.4545$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.2853$
NO	P _t ²	P _w	P _w ²	P _c ² - P _w ²	AOF = Q	$\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.120$
1		980	960	80		
2		935	874	166		
3		790	624	416		
4		570	325	715		
5						

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.120$$

Absolute Open Flow 1.120 Mcfd @ 15.025	Angle of Slope @ 56.2	Slope, n 67
--	-----------------------	-------------

Approved By Commission: _____ Conducted By: _____ Calculated By: EIB _____ Checked By: _____
 F. I. Buttruss, Jr.

Mesa Petroleum Co.,
 Salt Federal #1
 Sec 8, T8S, R23E
 Chaves Co., NM
 3-30-81



$$n = 1/\text{slope} = \frac{\log Q_2 - \log Q_1}{\log \text{Cycle}_2 - \log \text{Cycle}_1} = \frac{\log 1125 - \log 240}{\log 1000 - \log 80} = \frac{3.05 - 2.38}{.67} = .67$$

$$\theta = 56.2^\circ$$