

45P
File

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL OCT 12 1982

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 9-21-82		O. C. D.	
Company Mesa Petroleum Co. ✓				Connection Unconnected		ARTESIA, OFFICE	
Pool Pecos-Slope-ABO				Formation ABO		Unit	
Completion Date 9-21-82		Total Depth 3110'		Plug Back TD 2993'		Elevation 4054'	
Farm or Lease Name China Fed		Well No. 9		Unit E 20 7S		Rye 23E	
Csg. Size 4 1/2"		Wt. 10.5#		Set At 3053'		Perforations: From 2842' To 2983'	
Tbg. Size 2-3/8"		Wt. 4.7#		Set At 2914'		Perforations: From open ended To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At None		County Chaves	
Producing Thru Tubing		Reservoir Temp. °F 96° @ 3110'		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 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							800		800		72 hr. SI
1.	2" x 1"			35		34	750	44	765		1 hr.
2.	2" x 1"			66		35	670	45	715		1 hr.
3.	2" x 1"			87		42	570	42	670		1 hr.
4.	2" x 1"			101		48	480	48	580		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	48	1.026	1.24		1043
2.	"	" "	79	1.025	1.24		1715
3	"	" "	100	1.018	1.24		2157
4.	"	" "	114	1.012	1.24		2444
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 813	P _c ² 661		
NO.	P _w ²	P _w	P _c ² - P _w ²
1	778	605	56
2	728	530	131
3	683	466	195
4	593	352	309
5			

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 2.1391$$

$$ACF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3,600$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.4625$$

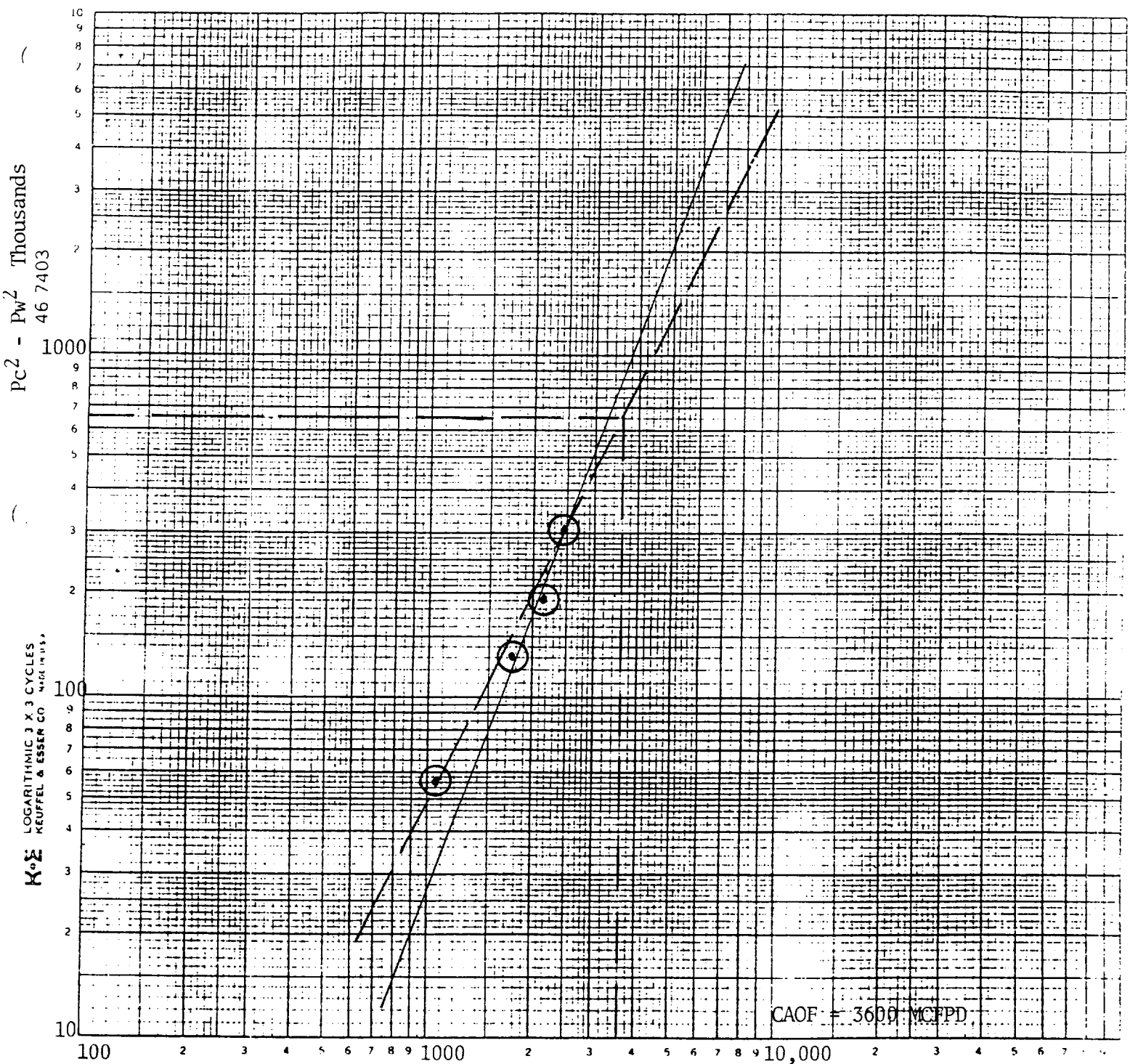
Post ID-2
10-15-82
Camp + BK

Absolute Open Flow 3,600	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: E. L. Buttross, Jr.	Checked By:
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MESA PETROLEUM CO.
 China Federal No. 9
 Chaves County, New Mexico
 9-21-82



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