

L CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088
SANTA FE, NEW MEXICO 87501Form C-122
Revised 10-1-78

RECEIVED

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 4-20-83		APR 20 1983	
Company MESA PETROLEUM CO.		Connection UNCONNECTED		O. C. D. ARTESIA, OFFICE	
Pool WEST PECOS SLOPE ABO		Formation ABO		Unit	
Completion Date 3-18-83		Total Depth 3284'		Plug Back TD 3210'	
Elevation 4147' GR		Farm or Lease Name HALEY COM			
Csq. Size 4 1/2	Wt. 10.5#	Set At 3284'	Perforations: From 2822 To 2972		Well No. 2
Thq. Size 2 3/8	Wt. 4.7#	Set At 2980'	Perforations: From OPEN ENDED To		Unit Sec. Twp. Rge. P 1 7S 22E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE			Packer Set At NONE		County CHAVES
Producing Thru TUBING		Reservoir Temp. °F 101° @ 3284		Mean Annual Temp. °F 60	
		Baro. Press. - P _a 13.2		State NEW MEXICO	
L	H	C _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							900		900		68 hr. SI
1.	2" X 1"			35		42	820	64	870		1 hr.
2.	2" X 1"			85		40	730	67	812		1 hr.
3.	2" X 1"			114		45	585	68	680		1 hr.
4.	2" X 1"			121		50	450	68	550		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	1.018	1.24		1035
2.	17.09	FLOW PROVER	98	1.020	1.24		2118
3	17.09	FLOW PROVER	127	1.015	1.24		2731
4.	17.09	FLOW PROVER	134	1.010	1.24		2868
5.							

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

NO.	P _c	P _w	P _c ²	P _w ²	P _c ² - P _w ²
1	913	883	834	780	54
2		825		681	153
3		693		480	354
4		563		317	517
5					

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.6132$$

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

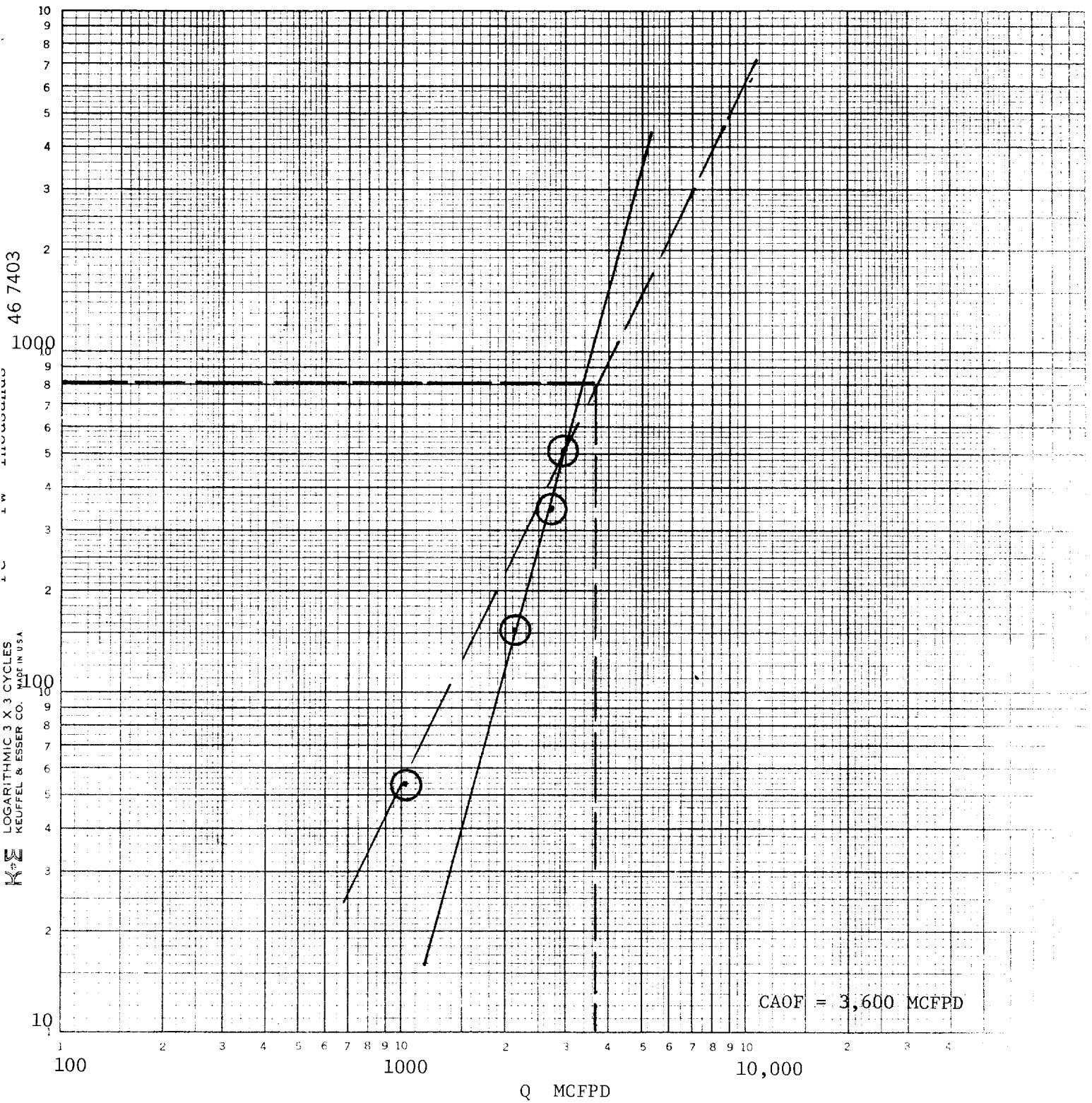
$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.2700$$

Absolute Open Flow _____ 3,600 _____ Mcfd @ 15.025	Angle of Slope θ _____ 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 the highest point.

Approved By Division	Conducted By: James Craig	Calculated By: E. L. Buttross, Jr.	Checked By:
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Mesa Petroleum Co.
 Haley Com No. 2
 Chaves Co., NM
 April 20, 1983



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