

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

45F
File

Type Test ☒ Initial FOUR POINT ☐ Annual ☐ Special		Date 4-29-82		Well No. 990' FNL	
Company JACK CRANDERS <i>Viking Petr. Inc.</i>		Connection AIR NEW WELL		Date MAY 14 1982	
Well UNDESIGNATED <i>Pecos Slope</i>		Formation ABO		Unit A	
Completion Date 4-28-82		Total Depth 3960 <i>4004</i>		Pack Back TD 3916	
Elevation 3791 KB		Perforations: From 3450 To 3699		Perforations: From OPEN To ENDED	
Well Size 4.50		Well ID 4.052		Set At 3916	
Well Size 2.375		Well ID 1.995		Set At 3390	
Type Well - Single - Brdenhead - G.G. or G.O. Multiple SINGLE		Packer Set At NONE		County CHAVES	
Producing Thru TUBING		Reservoir Temp. °F 92 • 3574		Mean Annual Temp. °F 60°	
Boro. Press. - P _g 13.2		State NEW MEXICO		Unit Sec. Twp. Rge. A 30 6S 25E	
L 3575		H 3575		Gg 0.718	
% CO ₂ 4.80		% N ₂ 11.09		% H ₂ S 2"	
Prover 2"		Meter Run		PIPE	

FLOW DATA						TUBING DATA		B.H.P. 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.	CHOKE
51							772	78	859	72
1	2.00 X	.09375		729	0	84	729	75	816	64/64
2	2.00 X	.1875		375	0	80	657	78	728	8/64
3	2.00 X	.1875		537	0	80	537	78	585	64/64
4	2.00 X	.21875		400	0	81	440	81	469	13/64

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 _{sp}	Rate of Flow Q, Mscf/d
1	.1446	.00	742.2	.9777	1.1802	1.0618	131
2	.6237	.00	388.2	.9813	1.1802	1.0325	290
3	.6237	.00	550.2	.9813	1.1802	1.0466	416
4	1.1150	.00	413.2	.9804	1.1802	1.0347	552

NO	H	Temp. °F	T _g	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	1.10	544	1.48	.887			.7180		677	367
2	.57	540	1.47	.938						
3	.81	540	1.47	.913						
4	.61	541	1.47	.934						

NO	P _c	P _w	P _w ²	P _c ² - P _w ²
1	872.2	829.2	687.2	73.0
2		741.2	549.4	211.0
3		598.2	357.8	403.0
4		482.2	232.5	528.0

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.4408$

Actual = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 720.0$

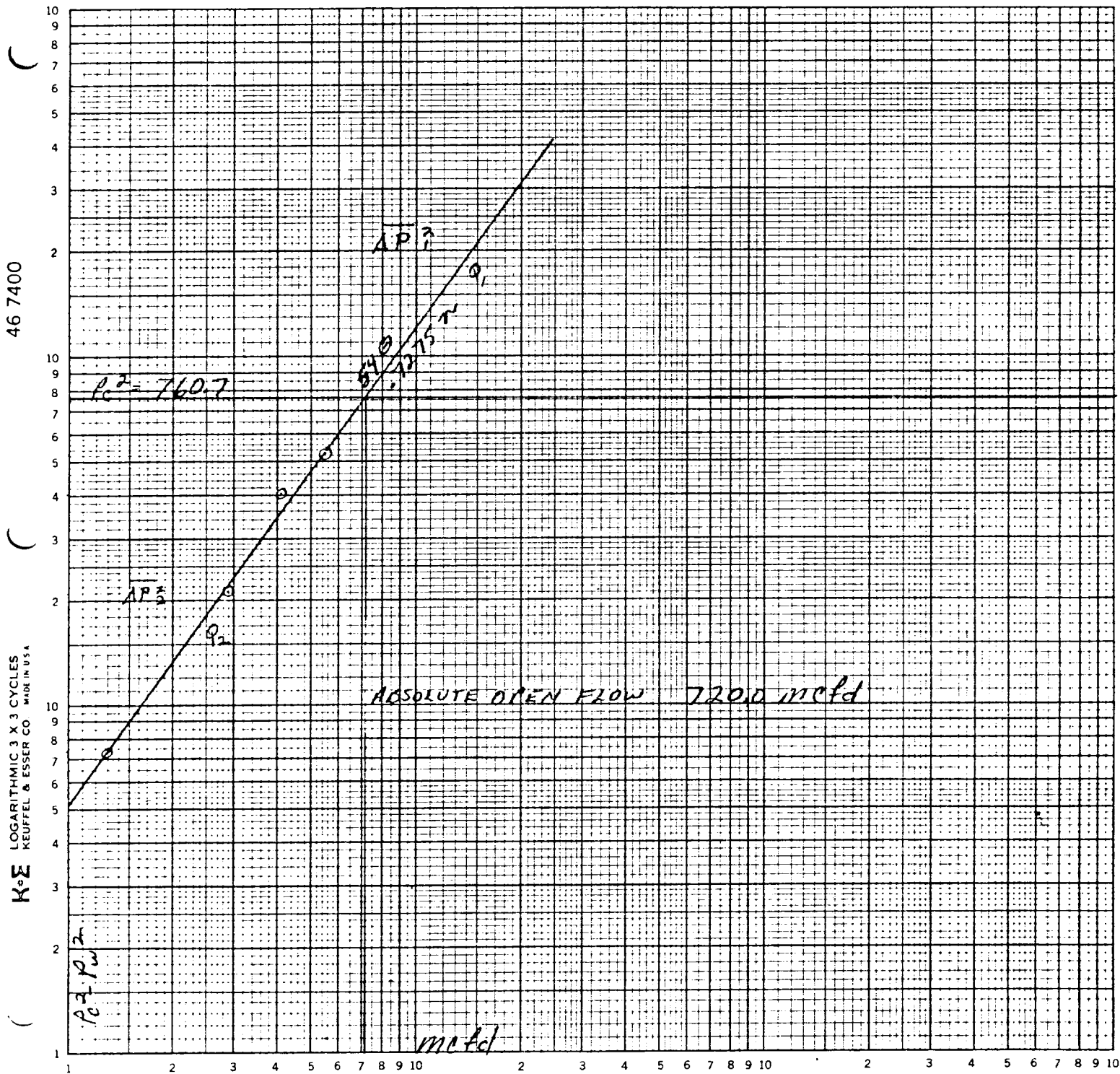
(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.3043$

Steady State Open Flow	720.0	Mscf @ 15.025	Angle of Slope	54.0	Slope, n	.7275
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Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA PRESSURE ELEMENTS

Approved By Commission:	Conducted By: DON BENNETT	Calculated By: BENNETT & CATHEY	Checked By:
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JACK Brynberg
 11 Dermott Corn Well No 30-1
 B, 30, 65, 25F
 Chaves County
 April 29, 1982



$$\overline{AP}_1 \quad P_c^2 - P_w^2 = 2,000$$

$$\overline{AP}_2 \quad P_c^2 - P_w^2 = 200$$

$$Q_1 = 1450.0 \text{ mcf/d}$$

$$n = 771.1 \text{ m.p.l}$$

$$\log Q_1 = 3.1614$$

$$\log Q_2 = \frac{2.4339}{7775}$$