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State of New Mexico
Energy Minerals and Natural Resources

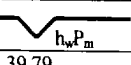
Form C-122
Revised October, 1999

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator BTA Oil Producers						Lease or Unit Name Merchant, 8700 JV-P					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 08/03/01			Well No. 1		
Completion Date 08/03/01		Total Depth 12748		Plug Back TD 12458		Elevation 3662' GL 3682' KB			Unit Ltr. - Sec. - TWP - Rge. D 24 T21S-R34E		
Csg. Size 5"	Wt. 18#	d 4.276	Set At 12,748'	Perforations: From: 12,373 To: 12,389					County Lea		
Thg. Size 2.875"	Wt. 6.5#	d 2.441	Set At 12,323'	Perforations: From: To:					Pool Grama Ridge (Morrow)		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 12,323'			Formation Morrow		
Producing Thru Tubing		Reservoir Temp. °F 181		Mean Annual Temp. °F 60		Baro. Press. - P _s 13.2			Connection El Paso N. G.		
L 12,323	H 12,323	Gg .607	%CO ₂ 0.78	%N ₂ 0.83	%H ₂ S 0	Prover		Meter Run 4.026	Taps Flange		

FLOW DATA						TUBING DATA		CASING DATA		Duration Of Flow
No.	Prover Line Size	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	4.026	x 1.750				5675	70	Pkr		
1.	4.026	x 1.750	620	2.5	105	5495	72	Pkr		1 hr
2.	4.026	x 1.750	620	10.0	78	5255	72	Pkr		1 hr
3.	4.026	x 1.750	610	24.0	61	4950	76	Pkr		1 hr
4.	4.026	x 1.750	620	47.5	45	4651	76	Pkr		1 hr
5.										

RATE OF FLOW CALCULATIONS							
No.	COEFFICIENT (24 HOUR)		Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg.	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	14.93	39.79	633.2	.9594	1.284	1.041	762
2.	14.93	79.57	633.2	.9831	1.284	1.051	1576
3.	14.93	122.30	623.2	.9990	1.284	1.058	2478
4.	14.93	173.43	633.2	1.015	1.284	1.065	3594
5.							

No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	.94	565	1.56	.922	72900	
2.	.94	538	1.49	.905	42	Deg.
3.	.93	521	1.44	.894	.607	XXXXXXXXXX
4.	.94	505	1.40	.882	XXXXXX	
5.					Critical Pressure 671 P.S.I.A.	P.S.I.A.
					Critical Temperature 361 R.	R.

No.	P _r ²	P _w	P _w ²	P _c ² - P _w ²
1.	30340	5511.5	30376.6	1992.7
2.	27754	5274.5	27820.4	4548.9
3.	24633	4975.7	24757.6	7611.7
4.	21755	4687.8	21975.5	10393.8
5.				

(1) $P_{c2} = \frac{3.113}{P_c^2 - P_w^2}$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 10090$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.807$

Absolute Open Flow	10090	Mcf/d@ 15.025	Angle of Slope θ: 42.27	Slope, n: 0.909
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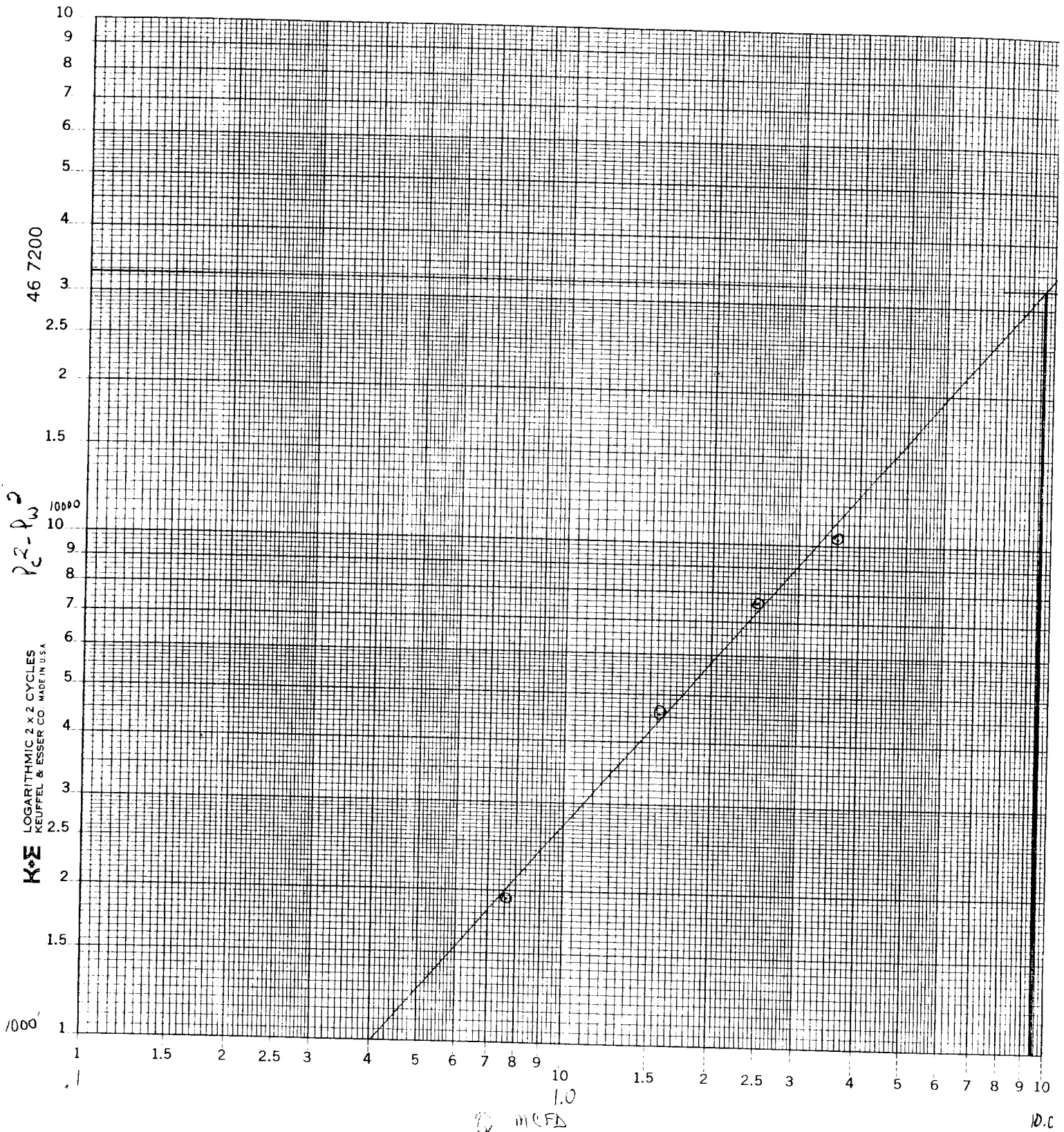
Remarks:

Approved By Division:	Conducted By: BTA Oil Producers	Calculated By: T. J. Williams	Checked By:
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Merchant #1, 8700 JU-P

D Sec 24-TAIS-R34E

Lea County, NM



$$n = .909$$

$$\theta = 42.27^\circ$$