

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 5/15/87	
Company Enron Oil & Gas Company				Connection Transwestern Enron Oil & Gas Co.	
Post Pitchfork Ranch				Formation Atoka	
Completion Date 3-7-87		Total Depth 13960'		Plug Back TD 13921'	
Elevation 3421' GL		Farm or Lease Name Madera 33 Federal Com			
Csg. Size 3 1/2"		Wt. 12.5		Set At 13960'	
Perforations: From 13865' To 13877'		Well No. 3			
Tub. Size 2 7/8"		Wt. 7.9		Set At 13007'	
Perforations: From Open To Ended		Unit Sec. Twp. Rge. L 33 24s 34e			
Type Well - Single - Brdenhead - G.G. or G.O. Multiple Single				Packer Set At 13007'	
Producing Thru Tbg		Reservoir Temp. °F 213 @ 13865'		Mean Annual Temp. °F 60°	
Baro. Press. - P _a 13.2		State New Mexico			
L 13049'		H 13049'		Cg .643	
% CO ₂ .423		% N ₂ .736		% H ₂ S	
Prover		Meter Run 3		Taps Flg	

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. DWT	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI							3951		PACKER		2.0 hrs
1.	3 X	1.250		960	3	79	3418	64			1.0 hr
2.	3 X	1.250		960	6	79	3350	64			1.0 hr
3.	3 X	1.250		960	12	78	3172	64			1.0 hr
4.	3 X	1.250		960	22	78	2841	64			1.0 hr
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, F _{pr}	Rate of Flow Q, Mscfd
1	7.577	54.03	973.2	.9822	1.247	1.087	545
2	7.577	76.41	973.2	.9822	1.247	1.087	771
3	7.577	108.07	973.2	.9831	1.247	1.087	1091
4	7.577	146.32	973.2	.9831	1.247	1.087	1477
5							

NO.	P _r	Temp. °R	T _r	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	1.45	539	1.45	.846	53.944 Mcf/cub. ft.	51 @ 60 Deg.	.643	XXXXXX	670 P.S.I.A.	372 °R
2	1.45	539	1.45	.846				XXXXX	668 P.S.I.A.	392 °R
3	1.45	538	1.45	.846						
4	1.45	538	1.45	.846						
5										

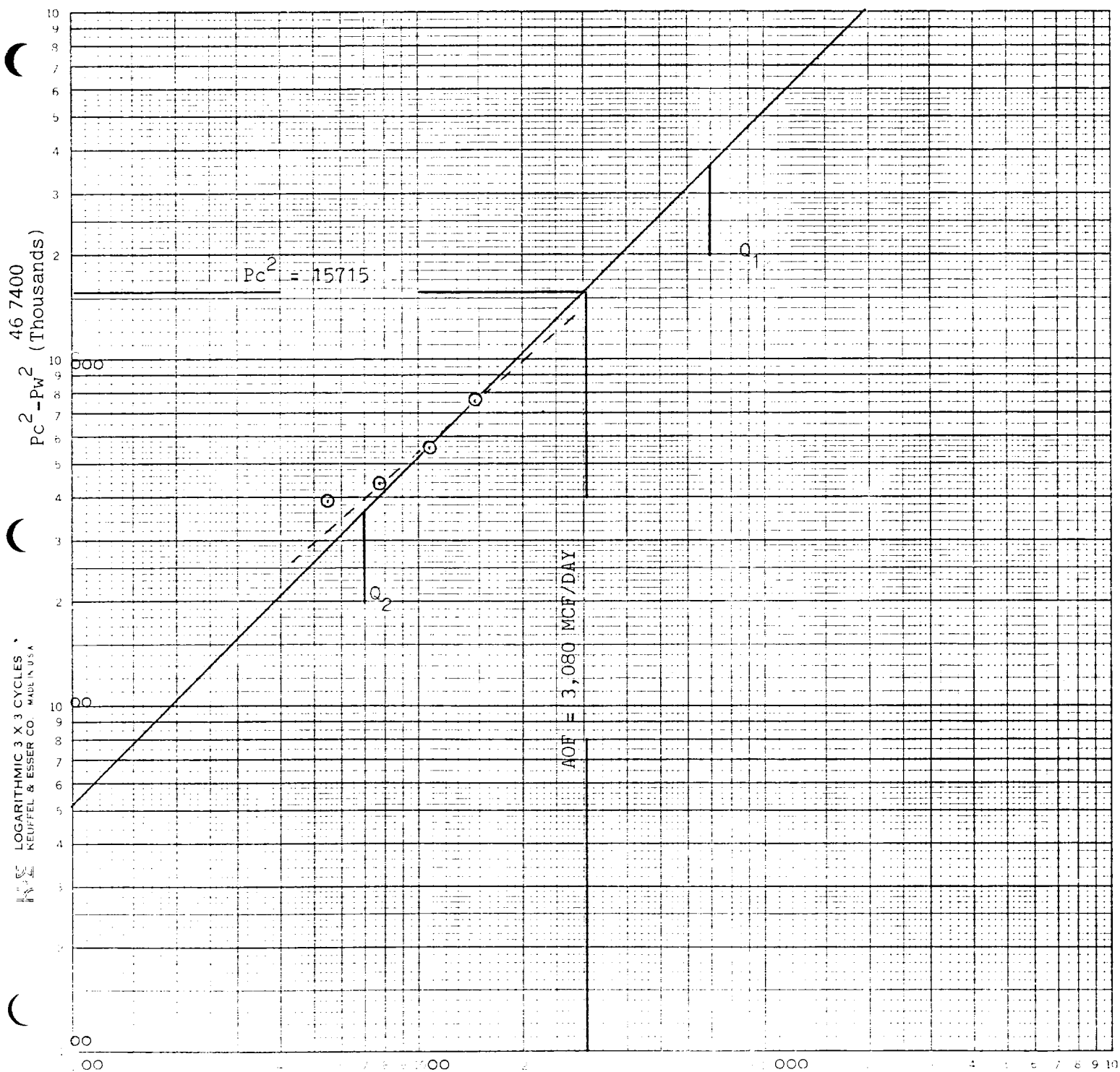
NO.	P _r ²	P _w ²	P _r ² - P _w ²	(1) $\frac{P_r^2}{P_r^2 - P_w^2} =$	(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n =$
1	11773	3433.0	11785	3930	2.085
2	11311	3365.0	11323	4392	
3	10145	3188.2	10165	5550	
4	8146	2859.6	8178	7537	
5					

Absolute Open Flow 3,080 Mcfd @ 15.025		Angle of Slope 45°		Slope, n 1.000	
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Remarks: 3 BBL OF CONDENSATE MADE DURING TEST
EQUIVALENT LENGTH I.D. (AND) (DEFF) WERE CALCULATED FROM
FRICTION FACTOR

Approved By Division	Conducted By: JARREL SERVICES, INC.	Calculated By: D. Dickerson	Checked By: D. Dickerson
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COMPANY: Enron Oil & Gas Company
 WELL: Madera 33 Federal Com, No. 3
 LOCATION: L 33 24s 34e
 COUNTY: Lea
 DATE: May 15, 1987



$$\begin{aligned}
 Q &= MCF/DAY \\
 Q_1 &= 7000 \text{ MCFD}; \quad \log Q_1 = 3.845098 \\
 Q_2 &= 700 \text{ MCFD}; \quad \log Q_2 = 2.845098 \\
 N &= 1.000000 = 1.000
 \end{aligned}$$

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