

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL **RECEIVED**

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 4/17/82		JUN 20 1982	
Company Yates Petroleum Corp. ✓				Connection Transwestern		O. C. D.	
Pool Pecos Slope 11.0				Formation Abo		Unit ARTESIA, OFFICE	
Completion Date 3/2/82		Total Depth 4300		Plug Back TD 4264		Elevation 3837.8	
Casing Size 4 1/2		Wt. 9.5		d 4.090		Set At 4270	
Perforations: From 3986 To 4012		Well No. 5					
Tubing Size 2 3/8		Wt. 4.7		d 1.995		Set At 3950	
Perforations: From To		Unit L		Sec. 12		Twp. 6S	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single		Packer Set At		County Chaves			
Producing Thru Tubing		Reservoir Temp. °F 96 @ 3999		Mean Annual Temp. °F 62		Baro. Press. - P ₀ 13.2	
State New Mexico		L 3950		H 3950		G _g .661	
% CO ₂ 2.19		% N ₂ 5.31		% H ₂ S -		Prover -	
Meter Run 2"		Taps Flanged					

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							890				
1.	2.067 x 1.125			430	23.2	60	741	65			24 hr
2.	2.067 x 1.125			390	37.4	61	603	69			24 hr
3.	2.067 x 1.125			360	43.8	60	602	72			24 hr
4.	2.067 x 1.125			340	70.4	54	565	73			24 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	6.393	101.4	443.2	1.000	1.236	1.041	830
2	6.393	122.9	403.2	.9990	1.230	1.036	1000
3	6.393	127.8	373.2	1.000	1.230	1.034	1040
4	6.393	157.7	353.2	1.006	1.230	1.034	1290
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1	.66	520	1.44	.923	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2	.60	521	1.45	.931	Specific Gravity Separator Gas .661 X X X X X X X X
3	.55	520	1.44	.936	Specific Gravity Flowing Fluid X X X X X
4	.53	514	1.42	.935	Critical Pressure 669 P.S.I.A. 669 P.S.I.A.
5					Critical Temperature 361 R 361 R

P _c 903.2	P _c ² 815.8				
NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	
1	568.5		578	237.8	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.7789$
2	379.9		490.8	325.0	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.448$
3	378.2		393.6	422.2	
4	334.3		357.2	458.6	
5					

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1868 \text{ mcf/d}$$

Absolute Open Flow 1868 mcf/d	Mcf @ 15.025	Angle of Slope @	Slope, n 643
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Remarks:

Approved By Division	Conducted By:	Calculated By: Brent Mulliniks	Checked By: Al Springer
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WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Revised 9-1-65

COMPANY 1st 25 101 1010 LEASE 250 4/11 WELL NO. 5 DATE 6-16-82

LOCATION: Unit L Section 12 Township 6S Range 25E

L 3950 H 3950 L/H 1.000 G .661 % CO₂ 2.14 % N₂ 5.31 % H₂S —

d 1.995 F_i .01823 GH 2610 P_{cr} 669 T_{cr} 361

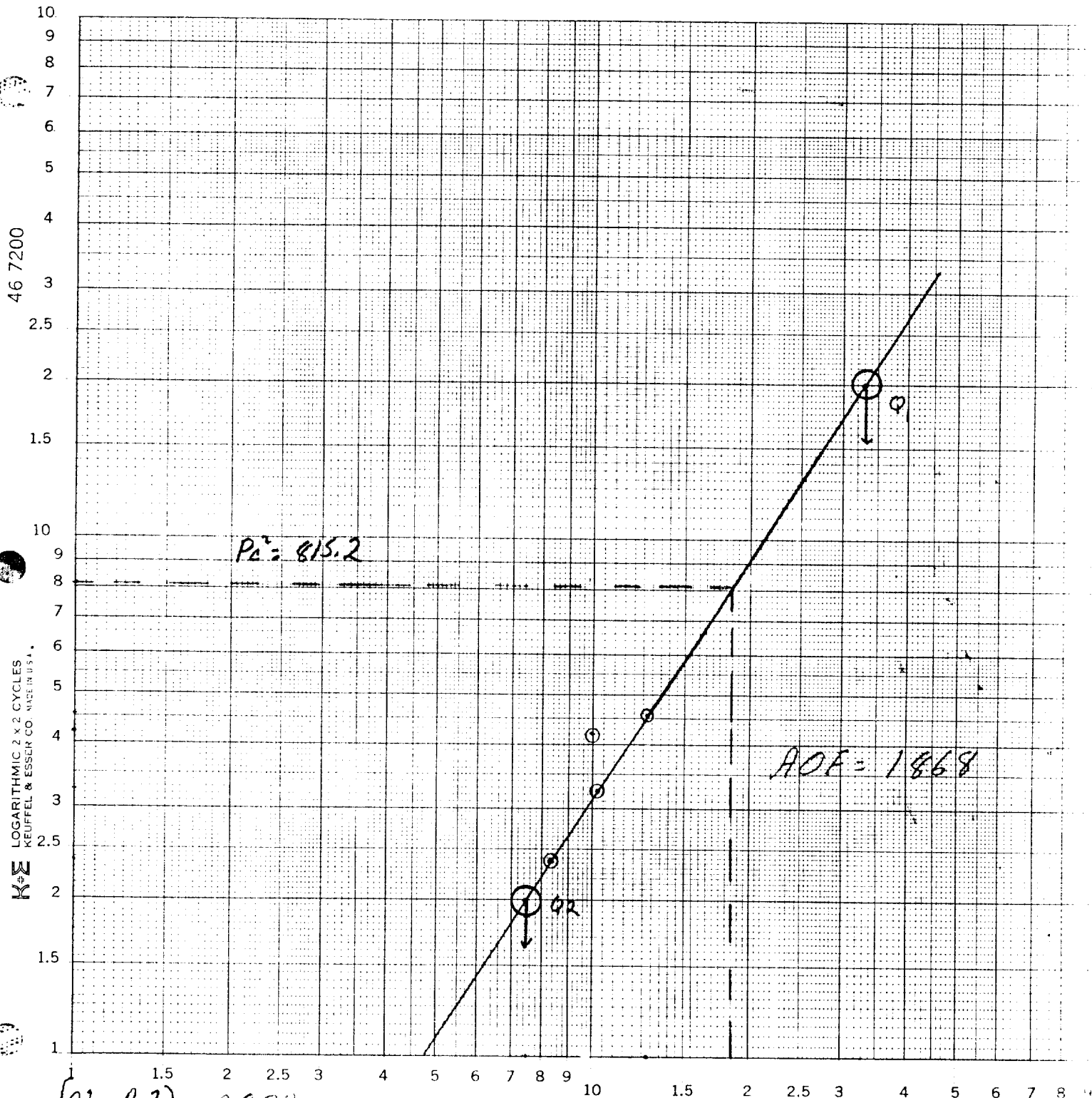
LINE	1 st rate	2 nd rate	3 rd rate	4 th rate		
1 Q _m	.830	1.000	1.040	1.290		
2 T ₁ (W.H. 93)	520	521	520	514		
3 T ₂ (E.H. 93)	525	529	532	533		
4 T ₃ (L.W. 93)	522.5	525.0	526.0	523.5		
5 T ₄ (E.H. 93)	.869	.892	.894	.899		
6 T ₅	454.0	468.3	470.24	469.6		
7 GH/TZ	5.748	5.573	5.530	5.558		
8 e ^s (Table XIV)	1.241	1.232	1.231	1.232		
9 1-e ^s (Table XIV)	.194	.148	.144	.188		
10 P _i	754.2	616.2	615.2	578.2		
11 P _i 2/1000	568.5	374.4	374.2	334.2		
12 F _i (Table XV)	.01823	.01823	.01823	.01823		
13 F _c = F _i TZ	8.277	8.537	8.573	8.560		
14 F _c Q _m	6.878	4.537	4.575	4.543		
15 L/H (F _c Q _m) ²	77.200	72.800	74.445	72.194		
16 F _w = L/H (F _c Q _m) ² (1-e ^{-s})	9.157	13.902	14.943	22.926		
17 P _w ² = P _i ² + F _w	577.6	343.6	343.4	359.2		
18 P _s ² = e ^s P _w ²	716.8	444.4	444.4	440.1		
19 P _s	846.9	666.3	666.3	663.4		
20 P = (P _i + P _s)	400.3	636.3	636.0	620.8		
21 P _r = (P/P _{cr})	1.20	.98	.94	.93		
22 T _r = (T/T _{cr})	1.45	1.45	1.46	1.45		
23 Z (Table XI)	.869	.869	.869	.897		

100114

12-65-255

Chavez, New Mexico

Yates Petr. Corp.



$$(P_c^2 - P_w^2)_1 = 2000$$

$$(P_c^2 - P_w^2)_2 = 200$$

$$Q_1 = 3300$$

$$Q_2 = 750$$

$$\log Q_1 = 3.51851$$

$$\log Q_2 = 2.87506$$

$$N = .69395 \quad N = .693$$