

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

SF-*file*
Form C-122 *file*
Revised 9-1-83

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 3-20-82		JUN 17 1982	
Company Yates Petroleum Corporation						Connection Transwestern Pipeline Corporation			
Well Pecos Slope Abo						Formation Abo			
Completion Date 12-20-81		Total Depth 4500'		Plug Back To 4423'		Elevation 3777.6' GR		Owner or Lease Name Godfrey MP Federal	
Csg. Size 4-1/2"	Wt. 9.5#	d 4.090	Set At 4498'	Perforations: From 3845' To 4001'		Well No. 5			
Tq. Size 2-3/8"	Wt. 6.5#	d 2.441	Set At 3930'	Perforations: From - To -		Unit Sec. Twp. Rge. 15 7S 25E			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Pecker Set At None		County Chaves	
Producing Thru tubing		Reservoir Temp. °F 104° @ 3200		Mean Annual Temp. °F 60°		Buro. Press. - P _a 13.2		State New Mexico	
L 3930	H 3930	Gg .678	% CO ₂ 1.45	% N ₂ 7.06	% H ₂ S 0	Prover ---	Meter Run 2"	Type Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	λ	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							954				days
1.	2.067 x 1.00			145	62.5	68	815	60			24 hrs
2.	2.067 x 1.00			190	77.2	68	700	62			24 hrs
3.	2.067 x 1.00			210	189.5	68	710	64			24 hrs
4.	2.067 x 1.00			210	98.2	68	710	60			24 hrs
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. Compens. Factor F _{sp}	Rate of Flow Q, Mscf/d
1	4.946	99.4	158.2	.9924	1.214	1.013	600
2	4.946	125.3	203.2	.9924	1.214	1.018	760
3	4.946	205.7	223.2	.9924	1.214	1.020	1250
4	4.946	148.1	223.2	.9924	1.214	1.020	900
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/Std.	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
1.	.2394	528	1.462	.974	Specific Gravity Separator Gas _____	X X X X X X X X
2.	.3074	528	1.462	.965	Specific Gravity Flowing Fluid _____	X X X X X
3.	.3377	528	1.462	.961	Critical Pressure 661 P.S.I.A.	P.S.I.A.
4.	.3377	528	1.462	.961	Critical Temperature 361 °R	°R
5.						

NO.	P _t ²	P _w ²	P _c ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} =$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$
1	685.9		691.0	250	$\frac{P_c^2}{P_c^2 - P_w^2} = 2.33$	$\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.04$
2	508.7		517.1	310		
3	523.02		545.6	600		
4	523.02	731.03	534.4	401.08		
5						

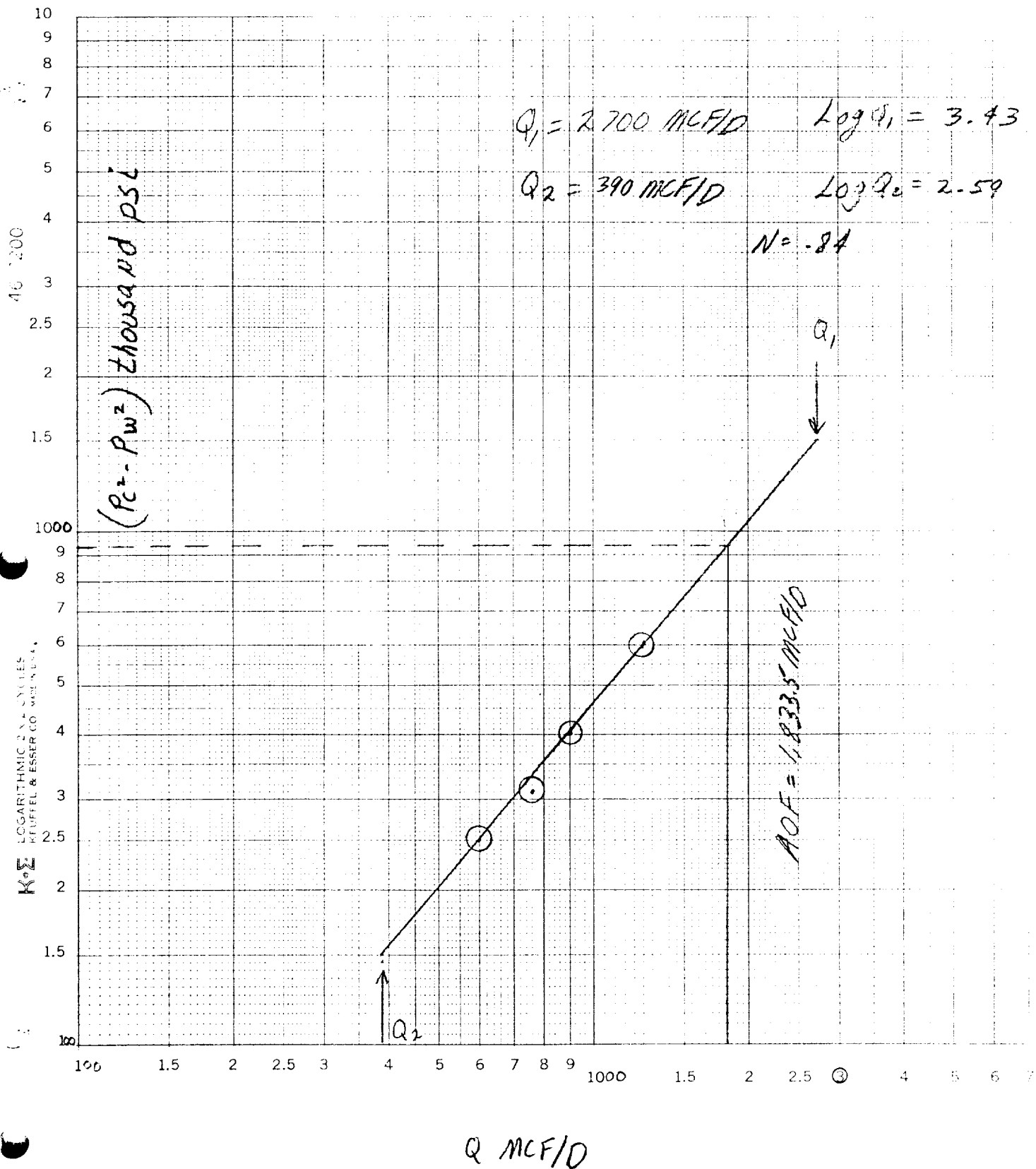
AOI = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$ **1833.5**

Absolute Open Flow **1833.5** Mscf @ 15.025 Angle of Slope **84** Slope, n **84**

Remarks: _____

Approved By Commission:	Conducted By: David Weaver	Calculated By: Socitt Yates	Checked By: -
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Godfrey MP Fed #5
Unit L 15-2 15F



WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw)

0-1220
AS-upted 9-1-65

COMPANY Yale Per Corp LEASE 5000001 11/2 Fed WELL NO. 5 DATE
 LOCATION: Unit L Section 15 Township 73 Range 25E
 L 3930 H 2940 L/H 1 G 28 % CO₂ 1.45 % N₂ 2.0 % H₂S 0
 d 2.0 F_r 0.18-234 GH 2064.5 P_{cr} 661 T_{cr} 361

LINE	Rate 4	Rate 3	Rate 2	Rate 1
1 Q _m	900	1.250	.760	.600
2 $2 F_w (W.H. Q_m)$	520	524	522	520
3 $2 F_w (H.H. Q_m)$	564	564		564
4 $2 F = \frac{(2 F_w)^2}{2}$	542	542	543.0	542
5 $2 F_{T_{cr}}$	.925	.888	.890	.974
6 $2 F_{T_{cr}}$	487	481.3	483.27	473.7
7 GH/TZ	5.47	5.54	5.513	5.625
8 e^s (Table XIV)	1.224	1.231	1.231	1.231
9 $1 - e^s$ (Table XIV)	.188	.188	.188	.190
10 P _t	723.2	723.2	713.2	828.2
11 $P_t^2 / 1000$	523.02	523.02	508.7	685.7
12 F _r (Table XV)	.018231	.018231	.018231	.018231
13 $F_{cr} = F_r T_z$	8.88	8.77	8.810	8.636
14 $F_{cr} Q_m$	7.99	7.79	6.696	5.182
15 $L/H (F_{cr} Q_m)^2$	63.25	60.71	44.526	26.850
16 $F_w = L/H (F_{cr} Q_m)^2 (1 - e^{-s})$	11.88	11.41	8.429	5.102
17 $P_w^2 = P_t^2 + F_w$	534.7	534.4	517.1	691.0
18 $P_s^2 = e^s P_w^2$	656.8	657.9	636.6	853.4
19 P _s	810.5	811.10	797.9	923.8
20 $P = \frac{P_t + P_s}{2}$	765.8	767.2	755.5	876.0
21 $P_r = (P/P_{cr})$	1.16	1.16	1.14	1.32
22 $T_r = (T/T_{cr})$	1.50	1.51	1.50	1.50
23 Z (Table XI)	.88	.886	.890	.890

ILLEGIBLE