

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

Form C-122
Revised 9-1-63

RECEIVED

C/SF
C-122

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 3-2-82		APR 1 6 1982	
Company Yates Petroleum Corporation/			Connection Transwestern Pipeline Co		
Pool Wildcat Morrow			Formation Morrow		
Completion Date 12-16-81		Total Depth 8700		Plug Back TD 8659 KB	
Casing Size 5 1/2"			Well No. 1		
Tubing Size 2 7/8"			Well No. 1		
Type Well - Single - Rodenthead - G.G. or G.O. Multiple single			Packer Set At 8296 KB		
Producing thru Tubing			State N.M.		
Reservoir Temp. °F 143			Mean Annual Temp. °F 62		
Baro. Press. - P _g 13.2			County Eddy		
L 8318			H 8318		
C _g 0.623			% CO ₂ 4.25		
% N ₂ 0.59			% H ₂ S Nil		
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
51							2550	78			Days
1.	2.067	X	1.250	490	20	70	2436	78			18 hrs
2.	2.067	X	1.250	500	36	68	2400	77			24 hrs
3.	2.067	X	1.250	505	54	62	2355	76			24 hrs
4.	2.067	X	1.250	515	71	60	2311	76			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 Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	8.120	100.32	503.2	.9905	1.268	1.040	1064
2	8.120	135.92	513.2	.9924	1.268	1.042	1447
3	8.120	167.28	518.2	.9981	1.268	1.044	1795
4	8.120	193.65	528.2	1.0000	1.268	1.045	2084
5							

NO.	P _t	Temp. °R	T _t	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	0.729	530	1.485	.9242	3042	54	0.622	XXXXXX	690	357
2	0.744	528	1.479	.9218						
3	0.751	522	1.462	.9181						
4	0.765	520	1.457	.9158						
5										

NO.	P _t	P _w	R _t	P _c	P _c ² - R _w ²
1	3154.5	9951	9122	829	
2			8879	1072	
3			8576	1375	
4			8279	1672	
5					

(1) $\frac{P_c^2}{P_c^2 - R_w^2} = 5.9516$		(2) $\left[\frac{P_c^2}{P_c^2 - R_w^2} \right]^n = 4.294$	
ADP = Q $\left[\frac{P_c^2}{P_c^2 - R_w^2} \right]^n = 8950$			

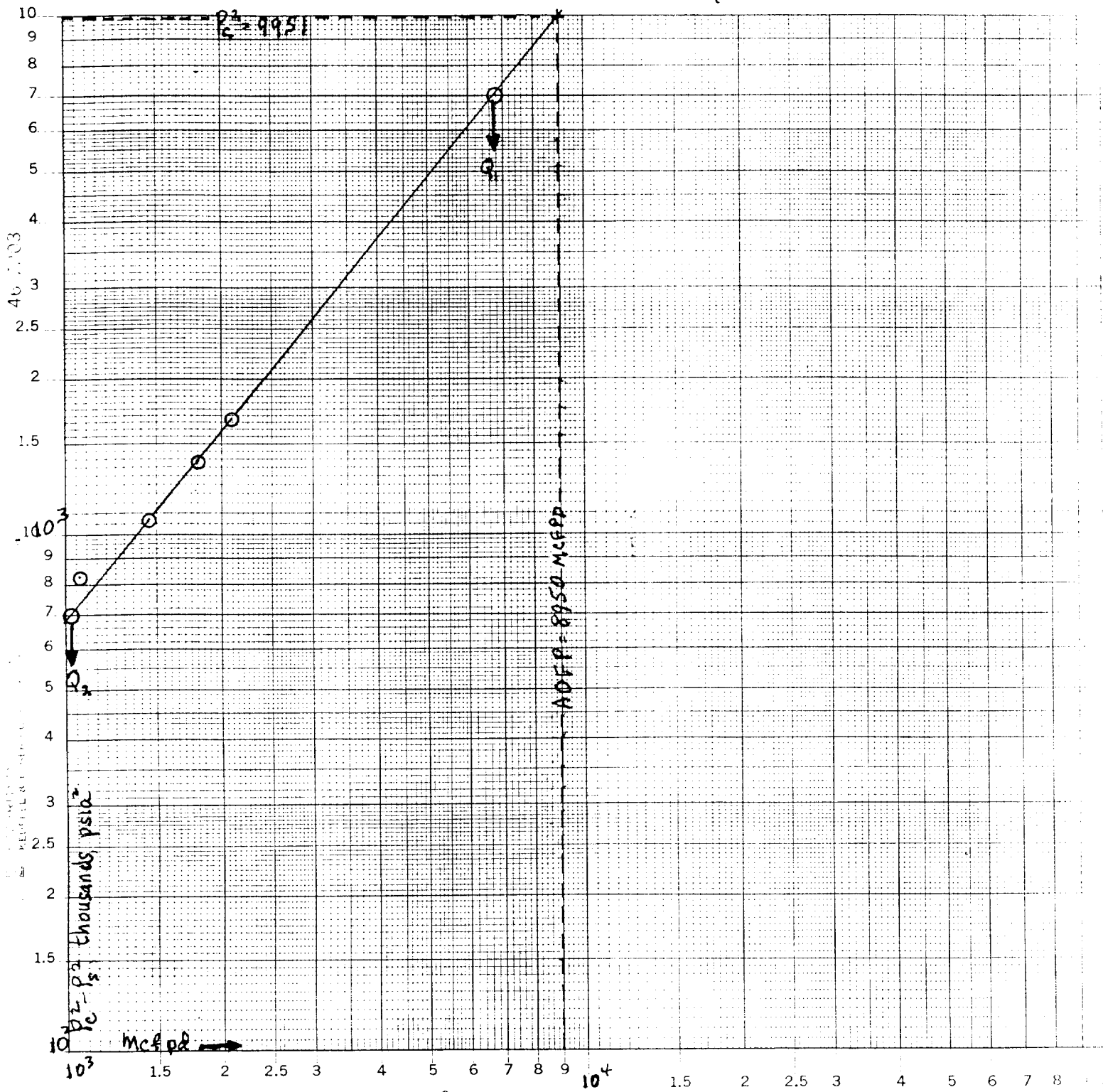
Absolute Open Flow	8950	Mcfd @ 15.025	Angle of Slope	50.75 deg	Slope, n	8170
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Remarks: Pressures by DWT (Static comparative with extrapolated BHP by Bennett)
Calculations worksheet C-122D attached.

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	Danny Matthews	Eddie Mahfood	

YPC- Triangle Ranch RA State Com. No. 1

Q-14-19s-23E. Wildcat Morrow. Eddy Co, N.M.



$$Q_1 = 6700 \text{ mcfpd}, \log Q_1 = 3.826$$

$$Q_2 = 1020 \text{ mcfpd}, \log Q_2 = 3.009$$

$$n = 0.817$$

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY IPC

LEASE Triangle Ranch RA Stwell No. 1 Com

DATE 3-2-82

LOCATION: Unit 0 Section 14 Township 19-S Range 23-E

L 8318 H 8318 L/H 1.022 G 2.623 %CO₂ 4.25 %N₂ 0.59 %H₂S 1.1
 d 2.452 F_i 0.009758 GH 5182 P_{CT} 690 T_{CT} 357
 25(2318) 598
 243(5455) 49413
 2318(6124) 530311

LINE	1	2	3	4		
1 P _w	1.064	1.447	1.735	2.080		
2 P _w	538	537	536	536		
3 P _w	602	601	601	600		
4 P _w	590.5	569	568.5	568		
5 P _w	820.5	816	812.5	812		
6 P _w	468.10	465.12	461.906	461.20		
7 P _w	11.0703	11.1412	11.2187	11.2365		
8 P _w	1.51457	1.5186	1.5230	1.5240		
9 P _w	0.3415	0.3425	0.3434	0.3438		
10 P _w	2563.2	2449.2	2368.2	2324.2		
11 P _w	6570.0	5998.58	5823.5	5603.4		
12 P _w = 0.0375 $\frac{q}{h}$	0.41513	0.41700	0.42070	0.42122		
13 P _w = P ₁ + P ₂	4.5386	4.5423	4.5073	4.5005		
14 P _w = P ₁	4.827	6.544	8.090	9.379		
15 P _w = P ₁ + P ₂	23.32	42.22	65.457	27.97		
16 P _w = L/H (P ₁ + P ₂)	7.96	14.7	22.5	30.2		
17 P _w = P ₁ + P ₂	6006.54	5938.2	5630.9	5432.1		
18 P _w = e ^{0.015 P₁}	9950.7	9121.53	8575.9	8278.53		
19 P _s	3154.5	3020.2	2979.8	2928.5		
20 P = ($\frac{P_1}{2} + P_s$)	2858.8	2734.7	2646.5	2600.7		
21 P _f = (P/P _{CT})	4.143	3.963	3.838	3.764		
22 T _f = (T/T _{CT})	1.598	1.597	1.592	1.591		
23 Z (Table XI)	0.8205	0.816	0.8125	0.812		

$$\begin{array}{r} 670.8 \\ 36.9 \\ \hline 707.7 \end{array}$$

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$$707.7 \times 1.0001 = 707.77077$$

$$707.77077 \times 1.0001 = 707.84154$$

$$707.84154 \times 1.0001 = 707.91231$$

$$707.91231 \times 1.0001 = 707.98308$$

$$707.98308 \times 1.0001 = 708.05385$$

$$708.05385 \times 1.0001 = 708.12462$$