

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

Form C-122
 Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 10/17/82	
Company Yates Petroleum Corporation			Connection Transwestern Pipeline		
Pool Pecos Slope - Abo Gas			Formation Abo		
Completion Date 6/30/82		Total Depth 4950'		Plug Back To 4855'	
Elevation 3760' G.M.		Farm or Lease Name McCrea "TU" Com			
Csg. Size 4 1/2"	Wt. 9.5#	Id 4.090	Set At 4950'	Perforations: From 4860 To 4870	
Tub. Size 2 3/8"	Wt. 4.7#	Id 1.995	Set At 4810'	Perforations: From To	
Type Well - Single - Prodenhead - G.G. or G.O. Multiple Single				Packer Set At 4810'	
Producing Thru Tubing		Reservoir Temp. °F 102 @ 4800'		Mean Annual Temp. °F 62	
Baro. Press. - P _a 13.2 psi		State New Mexico			
L 4810'	H 4810'	G _g .652	% CO ₂ .05	% N ₂ 7.20	% H ₂ S 0
Prover ---		Meter Run 2"		Type 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							1000				
1.	2.067 x .625			320	36.0	72	854	62			24 hr.
2.	2.067 x .625			320	38.6	72	826	62			24 hr.
3.	2.067 x .625			350	45.8	70	810	62			24 hr.
4.	2.067 x .625			390	50.0	72	780	62			24 hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{spv}	Rate of Flow Q, Mcfd
1	1.866	109.6	333.2	.9887	1.238	1.027	257
2	1.866	113.4	333.2	.9887	1.238	1.027	266
3	1.866	129.0	363.2	.9905	1.238	1.030	304
4	1.866	142.0	403.2	.9887	1.238	1.033	335
5							

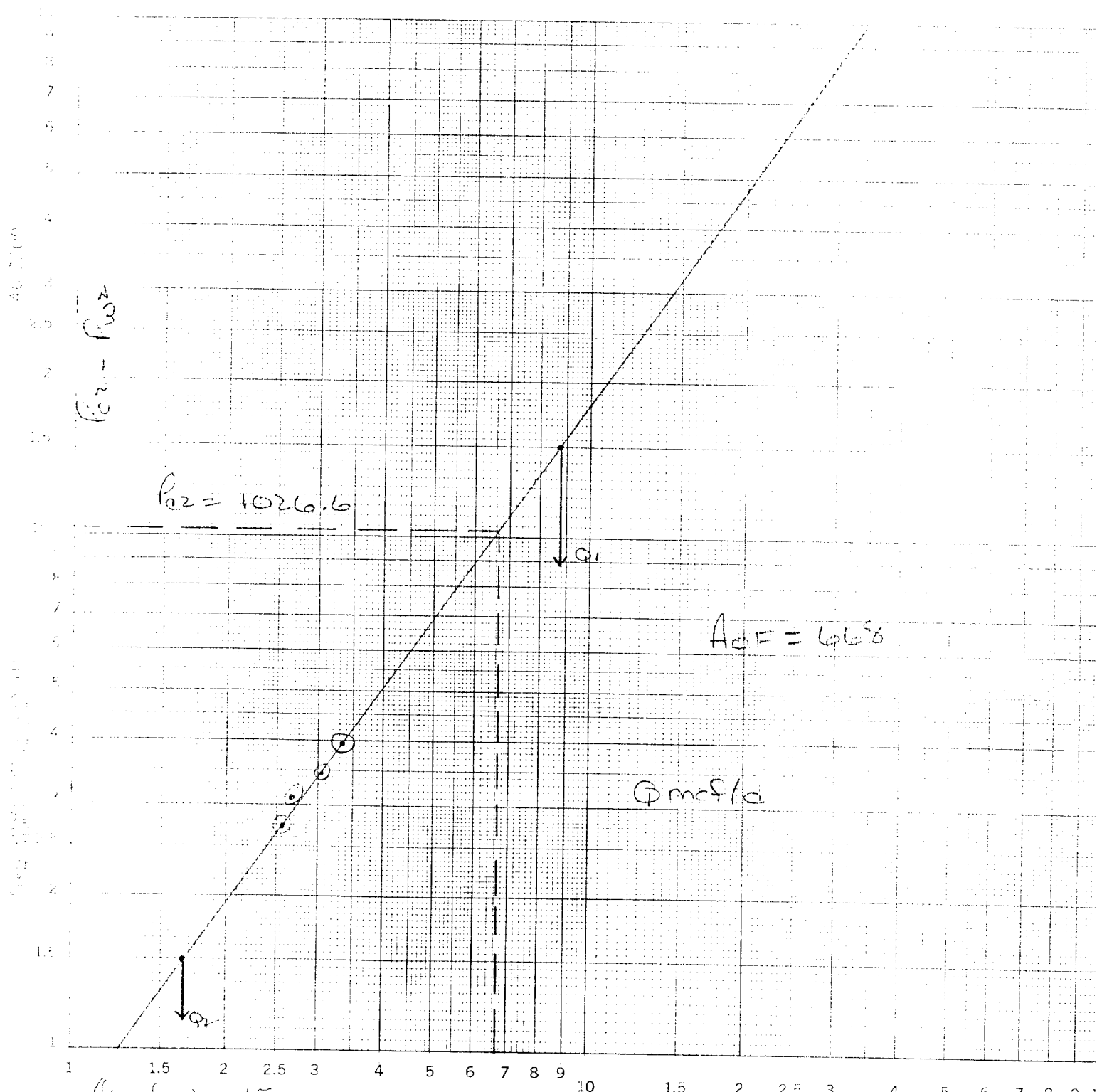
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Dry _____ Mcf/bbl.
1	.51	532	1.50	.948	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2	.51	532	1.50	.948	Specific Gravity Separator Gas .652 X X X X X X X X X
3	.55	530	1.49	.943	Specific Gravity Flowing Fluid X X X X X .652
4	.61	532	1.50	.938	Critical Pressure 658 P.S.I.A. 658 P.S.I.A.
5					Critical Temperature 355 R 355 R

P _c 1013.2 P _c ² 1026.6						
NO.	P _r	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.595$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.993$
1	752.0		753.1	273.5		
2	704.3		705.4	321.1		
3	677.7		679.2	347.4		
4	629.2		631.0	395.6		
5						

Absolute Open Flow 668 Mcfd @ 15.025			Angle of Slope @ _____	Slope, n .723
Remarks:				

Approved by Commission:	Conducted By: David Weaver	Calculated By: Andie Alderson	Checked By:
-------------------------	-------------------------------	----------------------------------	-------------

Yates Petroleum Corp. - 2000
 The Area - 7000000 ft²
 Unit B 32-85-266
 Chaves County



$$\begin{aligned}
 (P_0 - P_w)_1 &= 1500 \\
 (P_0 - P_w)_2 &= 150 \\
 Q_1 &= 738 \\
 Q_2 &= 166
 \end{aligned}$$

$$\begin{aligned}
 \log Q_1 &= 2.94349 \\
 \log Q_2 &= 2.22011 \\
 n &= .72339 = .723
 \end{aligned}$$

COMPANY United Petroleum Corp LEASE Midway WELL NO. 1 DATE 11/18/62

LOCATION: Unit R Section 3 Township S Range 2

L 4810 H 4810 L/H 1 G .652 % CO₂ .25 % N₂ 71.20 % H₂S 0

d 1.005 F_r .00075 GH 3136 P_{cr} 658 T_{cr} 300

TABLE IX A

LINE	1ST	2ND	3RD	11TH					
1 Q _m	.257	.266	.304	.335					
2 T _w (W.H. °R)	522	522	522	522					
3 T _g (B.H. °R)	562	562	562	562					
4 T = ($\frac{L}{W} + \frac{1}{S}$)	542	542	542	542					
5 Z (Est.)	.875	.879	.882	.886					
6 TZ	474.25	476.42	478.04	480.21					
7 G _r /TZ	6.613	6.582	6.560	6.530					
8 e ^s (Table XIV)	1.281	1.286	1.279	1.274					
9 1-e ^s (Table XIV)	.219	.219	.218	.217					
10 P _r	867.2	857.2	823.2	793.2					
11 P _r ² /1000	752.0	704.3	677.4	623.2					
12 F _r (Table XV)	.01823	.01823	.01823	.01823					
13 F _r = F _r TZ	8.646	8.685	8.715	8.754					
14 F _o G _m	2.222	2.310	2.649	2.933					
15 L/H (F _o Q _m) ²	4.937	5.337	7.019	8.601					
16 F _o = L/H (F _o Q _m) ² (1-e ^s)	1.081	1.161	1.330	1.553					
17 P _w ² = P _r ² + F _w	753.1	705.4	679.2	621.0					
18 F _s ² = e ^s P _w ²	964.7	902.9	838.7	755.6					
19 F _s	982.2	950.2	913.0	874.6					
20 F = ($\frac{F_s + P_s}{2}$)	924.7	894.7	874.6	845.4					
21 F _r = (P/P _g)	1.41	1.36	1.33	1.31					
22 T _r = (T/T _{cr})	1.53	1.53	1.53	1.53					
23 Z (Table XI)	.875	.879	.882	.886					