

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT - ONE POINT BACK PRESSURE TEST FOR G. WELL

Form C-122

151 file

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 12/14/1992	
Company Yates Petroleum Corp				Connection Transwestern Pipeline Co			
Pool Abo				Formation Pecos Slope		Unit	
Completion Date 11/13/1992		Total Depth 4100		Plug Back TD 4057		Elevation 3763	
Farm or Lease Name Powers OL Federal						Well No. 7	
Csg Size 4.500	Wt. 9.500	d 4.090	Set At 4100	Perforations: From 3483 To 3816		Unit Sec. Twp Rge G 29 6S 25E	
Tbg Size 2.375	Wt. 4.700	d 1.995	Set At 3435	Perforations: From 3483 To 3816			
Type Well Single				Packer Set At 3435		County Chaves	
Producing Thru Tubing		Resv Temp. °F 94 @ 3430		Mean Temp. °F 62		Baro. Press - Pa 13.2	
State New Mexico							
L 3435	H 3435	Gg 0.644	%CO ₂ 0.000	%N ₂ 5.131	%H ₂ S 0.001	Prover 0.000	Meter Run 2.000
						Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO	Prover Line Size	X	Orifice Size	Press p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp °F	Flow
SI	0.000	x	0.000	0	0.0	0	790	0			0
1	2.067	x	1.000	465	4.9	55	700	62			24
2	2.067	x	1.000	426	10.0	53	623	62			24
3	2.067	x	1.000	470	18.0	54	547	62			24
4	2.067	x	1.000	470	25.0	56	470	62			24
5		x									

RATE OF FLOW CALCULATIONS							
NO	Coefficient (24 Hour)	$\sqrt{hwPm}$	Pressure Pm	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	4.946	48.6	478.1	1.0048	1.246	1.044	314
2	4.946	66.2	439.5	1.0068	1.246	1.041	428
3	4.946	93.3	483.2	1.0058	1.246	1.045	604
4	4.946	109.9	483.2	1.0039	1.246	1.044	710
5							

NO	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	0	Mcf/bbl.
					A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg
1	0.72	515	1.45	0.918	Specific Gravity Separator Gas	0.644	xxxxxxxxxx
2	0.66	513	1.44	0.923	Specific Gravity Flowing Fluid	xxxxxxxxxx	0.644
3	0.73	514	1.44	0.916	Critical Pressure	662	P.S.I.A.
4	0.73	516	1.45	0.917	Critical Temperature	356	°R
5							

Pc	803.2	Pc²	645.1	(1) $\frac{Pc^2}{Pc^2 - Pw^2} = 1.973$	(2) $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1.656$
NO	Pw	Pw²	Pc² - Pw²		
1	508.7	714.0	509.8		
2	404.8	637.9	406.9		
3	313.8	564.0	318.2		
4	233.5	489.4	239.5		
5					

Absolute Open Flow		1000	Mcf/d @ 15.025	Angle of Slope	0 37	Slope, n	0.742
Remarks:							
Approved By Commission:		Conducted By:		Calculated By:		Checked By:	

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

DATE 12/14/1992

COMPANY Yates Petroleum Corp LEASE Powers OL Federal WELL NO. 7

LOCATION: Unit G Section 29 Township 6S Range 25E

L 3435 H 3435 L/H 1.000 G 0.644 %CO₂ 0.000 %N₂ 5.131 %H₂S 0.001

d 1.995 Fr 0.017777 GH 2212.1 P_{cr} 661.9 T_{cr} 356.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.314	0.428	0.604	0.710	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	554	554	554	554	
4 T = (Tw+Ts) / 2	537.7	537.7	537.7	537.7	
5 Z (Est.)	0.893	0.904	0.914	0.925	
6 TZ	480.1	485.9	491.6	497.6	
7 GH / TZ	4.608	4.553	4.499	4.446	
8 e ^s (Table XIV)	1.189	1.186	1.184	1.181	
9 1-e ^s (Table XIV)	0.159	0.157	0.155	0.154	
10 Pt	713.2	636.2	560.2	483.2	
11 Pt ² / 1000	508.7	404.8	313.8	233.5	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.534	8.637	8.740	8.846	
14 FcQm	2.68	3.69	5.28	6.28	
15 L / H(FcQm) ²	7.2	13.6	27.9	39.4	
16 Fw = L / H(FcQm) ² (1-e ^s)	1.14	2.14	4.33	6.06	
17 Pw ² = Pt ² +Fw	509.8	406.9	318.2	239.5	
18 Ps ² = e ^s Pw ²	605.9	482.6	376.6	283.0	
19 Ps	778.4	694.7	613.7	532.0	
20 P = (Pt+Ps) / 2	745.8	665.5	586.9	507.6	
21 Pr = (P / P _{cr})	1.13	1.01	0.89	0.77	
22 Tr = (T / T _{cr})	1.51	1.51	1.51	1.51	
23 Z (Table XI)	0.893	0.904	0.914	0.925	

Company
Well
Location
10^4

Yates Petroleum Corp
Powers OL Federal #7
G 29-6S-25E

County
Date

Chaves
12-14-1992

Q, Mcfd

10^3

PC^2-Pw^2

10^2

10^3

10^4

AOE = 1000

