

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

Form C-122

4157
File

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 04/13/1993	
Company Yates Petroleum Corp				Connection Transwestern Pipeline			
Pool Abo				Formation Pecos Slope		Unit	
Completion Date 01/23/1983		Total Depth 3100		Plug Back TD 3047		Elevation 4064	
Farm or Lease Name Rock House VF State							
Csg Size 4.500	Wt 9.500	d 4.090	Set At 3098	Perforations: From 2494 To 2855		Well No 1	
Tbg Size 2.875	Wt 6.500	d 2.441	Set At 2468	Perforations: From 2494 To 2855		Unit E	Sec. 16
Type Well Single						Packer Set At 2468	Twp. 8S
Producing Thru Tubing		Resv. Temp. °F 105 @ 2675	Mean Temp. °F 62	Baro. Press. - Pa 13.2		Rge 22E	County Chaves
L 2468		H 2468	Gg 0.650	%CO ₂ 0.037	%N ₂ 5.095	%H ₂ S 0.001	Prover 0.000
							Meter Run 2.000
							Taps Flange
FLOW DATA				TUBING DATA		CASING DATA	
NO	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Duration of Flow
SI	0.000	x	0.000	0	0.0	0	0
1	2.067	x	0.625	120	3.0	76	24
2	2.067	x	0.625	107	6.2	78	24
3	2.067	x	0.625	120	10.0	74	24
4	2.067	x	0.625	120	12.0	72	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	1.866	20.0	133.2	0.9850	1.240	1.011	46
2	1.866	27.4	120.1	0.9831	1.240	1.009	63
3	1.866	36.5	133.2	0.9868	1.240	1.011	84
4	1.866	40.0	133.2	0.9887	1.240	1.011	92
5							
NO	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio 0 Mcft/bbl.		
					A.P.I. Gravity of Liquid Hydrocarbons 0.000 Deg.		
1	0.20	536	1.49	0.979	Specific Gravity Separator Gas 0.650		XXXXXXXXXX
2	0.18	538	1.50	0.982	Specific Gravity Flowing Fluid XXXXXXXXXX		0.650
3	0.20	534	1.49	0.979	Critical Pressure 662 P.S.I.A.		662 P.S.I.A.
4	0.20	532	1.48	0.979	Critical Temperature 358 °R		358 °R
5							
Pc	920.2	Pc'	846.8				
NO	Pt'	Pw	Pw'	Pc' - Pw'	(1) $\frac{Pc'}{Pc' - Pw'} = 1.154$		
1	552.3	743.2	552.4	294.4	(2) $\left[\frac{Pc'}{Pc' - Pw'} \right]^n = 1.101$		
2	291.8	540.2	291.8	554.9			
3	113.0	336.2	113.1	733.7			
4	17.7	133.3	17.8	829.0	AOF = Q $\left[\frac{Pc'}{Pc' - Pw'} \right]^{-1} = 93$		
5							
Absolute Open Flow 93 Mcfd @ 15.025				Angle of Slope 0 34		Slope, n 0.669	
Remarks							
Approved By Commission:		Conducted By: Bill Hansen		Calculated By: Andrea Carpenter		Checked By:	

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

DATE 04/13/1993

COMPANY Yates Petroleum Corp LEASE Rock House VF State WELL NO. 1

LOCATION: Unit E Section 16 Township 8S Range 22E

L 2468 H 2468 L/H 1.000 G 0.650 %CO₂ 0.037 %N₂ 5.095 %H₂S 0.000

d 2.441 Fr 0.010495 GH 1605.2 Pcr 661.9 Tcr 358.3

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.046	0.063	0.084	0.092	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	565	565	565	565	
4 T = (Tw+Ts) / 2	543.2	543.2	543.2	543.2	
5 Z (Est.)	0.892	0.920	0.949	0.980	
6 TZ	484.4	499.6	515.7	532.1	
7 GH / TZ	3.314	3.213	3.113	3.016	
8 e ^s (Table XIV)	1.132	1.128	1.124	1.120	
9 1-e ^s (Table XIV)	0.117	0.113	0.110	0.107	
10 Pt	743.2	540.2	336.2	133.2	
11 Pt ² / 1000	552.3	291.8	113.0	17.7	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	5.084	5.243	5.412	5.585	
14 FcQm	0.23	0.33	0.46	0.52	
15 L / H(FcQm) ²	0.1	0.1	0.2	0.3	
16 Fw = L / H(FcQm) ² (1-e ^s)	0.01	0.01	0.02	0.03	
17 Pw ² = Pt ² +Fw	552.4	291.8	113.1	17.8	
18 Ps ² = e ^s PsPw ²	625.4	329.2	127.1	19.9	
19 Ps	790.8	573.7	356.4	141.1	
20 P = (Pt+Ps) / 2	767.0	557.0	346.3	137.1	
21 Pr = (P / Pcr)	1.16	0.84	0.52	0.21	
22 Tr = (T / Tcr)	1.52	1.52	1.52	1.52	
23 Z (Table XI)	0.892	0.920	0.949	0.980	

Company
Well
Location

Yates Petroleum Corp
Rock House VF State #1
E 16-8S-22E

County
Date

Chaves
04-13-1993

