

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

Form C-122

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 11/10/03		30-025-29457	
Company Yates Petroleum Corporation				Connection 1/5/04					
Pool Wildcat Mississippian				Formation Austin Cycle				Unit	
Completion Date 10/22/03		Total Depth 13510		Plug Back TD 13464		Elevation 4071		Farm or Lease Name Adobe Scott AYE	
Csg. Size 4.500	Wt. 11.600	d 4.000	Set At 13510	Perforations: From 13027 To 13038		Well No. 1			
Tbg. Size 2.375	Wt. 4.700	d 1.995	Set At 12900	Perforations: From 13027 To 13038		Unit Sec. Twp. Rge. J 11 15S 34E			
Type Well Single				Packer Set At 12900		County Lea			
Producing Thru Tubing		Resv. Temp. °F 183 @ 12850		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State NM	
L 12900	H 12900	Gg 0.672	%CO ₂ 0.708	%N ₂ 0.768	%H ₂ S 0.000	Prover 0.000	Meter Run 4.000	Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration	
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	of Flow
SI.	0.000	x	0.000	0	0.0	0	4400	0			0
1.	4.026	x	1.750	300	17.0	60	2000	60			24
2.	4.026	x	1.750	300	21.0	60	1433	60			24
3.	4.026	x	1.750	300	24.0	60	867	60			24
4.	4.026	x	1.750	300	26.0	60	300	60			24
5.		x									

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{hwP_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	14.930	73.0	313.2	1.0000	1.220	1.033	1373
2.	14.930	81.1	313.2	1.0000	1.220	1.033	1526
3.	14.930	86.7	313.2	1.0000	1.220	1.033	1631
4.	14.930	90.2	313.2	1.0000	1.220	1.033	1698
5.							

NO.	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	50	Mcf/bbl.
1.	0.47	520	1.38	0.937	A.P.I. Gravity of Liquid Hydrocarbons	54.000	Deg.
2.	0.47	520	1.38	0.937	Specific Gravity Separator Gas	0.672	XXXXXXXXXX
3.	0.47	520	1.38	0.937	Specific Gravity Flowing Fluid	XXXXXXXXXX	0.731
4.	0.47	520	1.38	0.937	Critical Pressure	671	P.S.I.A. 669
5.					Critical Temperature	376	P.S.I.A. 396

Pc	4413.2	Pc ²	19476.3
NO.	Pr	Pw	Pw ²
1.	4053.0	2028.8	4116.1
2.	2091.5	1473.5	2171.2
3.	774.8	936.3	876.6
4.	98.1	473.7	224.4
5.			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.125$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1697$

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Absolute Open Flow	1697	Mcf/d @ 15.025	Angle of Slope	θ 42	Slope, n	0.900
Remarks:						

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	Jeremy Fitzer	Misty Carter	George Freeman

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

DATE 11/10/03

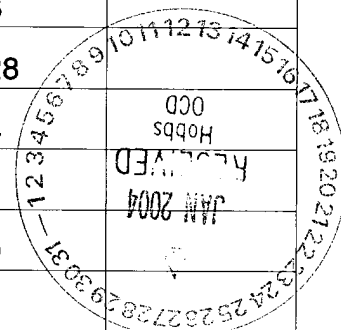
COMPANY Yates Petroleum Corporation LEASE Adobe Scott AYE WELL NO. 1

LOCATION: Unit J Section 11 Township 15S Range 34E

L 12900 H 12900 L/H 1.000 G 0.731 %CO₂ 0.708 %N₂ 0.768 %H₂S 0.000

d 1.995 Fr 0.017777 GH 9431.2 Pcr 669.2 Tcr 395.9

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.373	1.526	1.631	1.698	
2 Tw(W.H.°R)	520	520	520	520	
3 Ts(B.H.°R)	643	643	643	643	
4 T = (Tw+Ts) / 2	581.2	581.2	581.2	581.2	
5 Z (Est.)	0.752	0.764	0.831	0.922	
6 TZ	437.0	444.1	483.1	535.7	
7 GH / TZ	21.583	21.236	19.522	17.606	
8 e ^Λ s(Table XIV)	2.246	2.217	2.079	1.935	
9 1-e ^Λ -s(Table XIV)	0.555	0.549	0.519	0.483	
10 Pt	2013.2	1446.2	880.2	313.2	
11 P _t ² / 1000	4053.0	2091.5	774.8	98.1	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	7.768	7.895	8.588	9.523	
14 FcQm	10.66	12.05	14.01	16.17	
15 L / H(FcQm) ²	113.7	145.1	196.2	261.3	
16 Fw = L / H(FcQm) ² (1-e ^Λ -s)	63.09	79.67	101.86	126.28	
17 Pw ² = P _t ² +Fw	4116.1	2171.2	876.6	224.4	
18 Ps ² = e ^Λ sPw ²	9246.4	4813.7	1822.7	434.2	
19 Ps	3040.8	2194.0	1350.1	659.0	
20 P = (Pt+Ps) / 2	2527.0	1820.1	1115.1	486.1	
21 Pr = (P / Pcr)	3.78	2.72	1.67	0.73	
22 Tr = (T / Tcr)	1.47	1.47	1.47	1.47	
23 Z (Table XI)	0.752	0.764	0.831	0.922	



Company
Well
Location
10^6

Yates Petroleum Corporation
Adobe Scott AYE #1
J 11-15S-34E

County
Date

Lea
11-10-03

Q, Mcfd

10^5

10^4

10^3

10^4

AOF = 1687

10^5

P₀-P_{wf}

