

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 3/8/04		30-025-29457		
Company Yates Petroleum Corporation				Connection 3/2/04					
Pool Morton Morrow (Gas)				Formation Morrow			Unit		
Completion Date 3/2/04		Total Depth 13510		Plug Back TD 13000		Elevation 4071		Farm or Lease Name Adobe Scott AYE	
Csg. Size 4.500	Wt. 11.600	d 4.000	Set At 13510	Perforations: From 12784 To 12855			Well No. 14		
Tbg. Size 2.375	Wt. 4.700	d 1.995	Set At 13510	Perforations: From 12784 To 12855			Unit J	Sec. 11	Twp. 15S
Type Well Single				Packer Set At 12600			County Lea		
Producing Thru Tubing		Resv. Temp. °F 183 @ 12850		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State NM	
L 12600	H 12600	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 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
SI.	0.000	x	0.000	0	0.0	0	3550	0			0
1.	4.026	x	0.750	350	13.0	60	3200	60			24
2.	4.026	x	0.750	350	72.0	60	2250	60			24
3.	4.026	x	0.750	350	126.0	60	1300	60			24
4.	4.026	x	0.750	350	154.0	60	350	60			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.	2.661	68.7	363.2	1.0000	1.220	1.038	232
2.	2.661	161.7	363.2	1.0000	1.220	1.038	545
3.	2.661	213.9	363.2	1.0000	1.220	1.038	721
4.	2.661	236.5	363.2	1.0000	1.220	1.038	797
5.							

NO.	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature	Mcf/bbl.	Deg.
1.	0.54	520	1.38	0.927	14	51.600	0.672	XXXXXXXXXX	671	376	664	445
2.	0.54	520	1.38	0.927								
3.	0.54	520	1.38	0.927								
4.	0.54	520	1.38	0.927								
5.												

NO.	Pi ²	Pw	Pw ²	Pi ² - Pw ²
1.	10324.7	3213.5	10326.9	2369.5
2.	5122.1	2265.4	5131.9	7564.5
3.	1724.5	1318.9	1739.6	10956.8
4.	131.9	401.5	161.2	12535.2
5.				

Pc 3563.2 Pc² 12696.4

(1) $\frac{Pc^2}{Pc^2 - Pw^2} = 1.159$

(2) $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1.116$

AOF = Q $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 804$

Absolute Open Flow 804 Mcfd @ 15.025

Angle of Slope θ 37

Slope, n 0.742

Remarks:

Approved By Commission: 

Conducted By: Jeremy Fitzer

Calculated By: Misty Carter

Checked By: George Freeman

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

DATE 3/8/04

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

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

L 12600 H 12600 L/H 1.000 G 0.880 %CO₂ 0.708 %N₂ 0.768 %H₂S 0.000

d 1.995 Fr 0.017777 GH 11083.0 Pcr 664.0 Tcr 444.9

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.232	0.545	0.721	0.797	
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.)	0.821	0.695	0.635	0.882	
6 TZ	477.4	404.0	369.1	512.4	
7 GH / TZ	23.215	27.435	30.025	21.631	
8 e ^{As} (Table XIV)	2.388	2.800	3.083	2.250	
9 1-e ^{-s} (Table XIV)	0.581	0.643	0.676	0.556	
10 Pt	3213.2	2263.2	1313.2	363.2	
11 Pt ² / 1000	10324.7	5122.1	1724.5	131.9	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.487	7.181	6.562	9.108	
14 FcQm	1.97	3.91	4.73	7.26	
15 L / H(FcQm) ²	3.9	15.3	22.4	52.7	
16 Fw = L / H(FcQm) ² (1-e ^{-s})	2.25	9.83	15.13	29.30	
17 Pw ² = Pt ² +Fw	10326.9	5131.9	1739.6	161.2	
18 Ps ² = e ^{As} Pw ²	24663.9	14370.5	5363.2	362.8	
19 Ps	4966.3	3790.8	2315.8	602.3	
20 P = (Pt+Ps) / 2	4089.7	3027.0	1814.5	482.8	
21 Pr = (P / Pcr)	6.16	4.56	2.73	0.73	
22 Tr = (T / Tcr)	1.31	1.31	1.31	1.31	
23 Z (Table XI)	0.821	0.695	0.635	0.882	

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

County
Date Lea
3-8-04

