

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

Form C-122

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special					Test Date 10/8/03		30-025-36253		
Company Yates Petroleum Corporation				Connection 9/11/03					
Pool Und. Sand Springs, Atoka-Morrow GasMorrow				Formation Morrow			Unit		
Completion Date 9/3/03		Total Depth 12840		Plug Back TD 12797		Elevation 4209		Farm or Lease Name Strait State Unit	
Csg. Size 5.500	Wt. 17.000	d 4.892	Set At 12840	Perforations: From 12018 To 12335		Well No. 1			
Tbg. Size 2.875	Wt. 6.500	d 2.441	Set At 11800	Perforations: From 12018 To 12335		Unit 1	Sec. 33	Twp. 10S	Rge. 34E
Type Well Single					Packer Set At 11800			County Lea	
Producing Thru Tubing		Resv. Temp. °F 190 @ 12100		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State NM	
L 12840	H 12840	Gg 0.759	%CO ₂ 7.123	%N ₂ 1.506	%H ₂ S 0.000	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	
Sl.	0.000	X	0.000	0	0.0	0	2100	0			0
1.	2.067	X	1.375	300	16.0	60	930	60			24
2.	2.067	X	1.375	300	18.0	60	720	60			24
3.	2.067	X	1.375	300	20.0	60	510	60			24
4.	2.067	X	1.375	300	21.0	60	300	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.	10.200	70.8	313.2	1.0000	1.148	1.037	859
2.	10.200	75.1	313.2	1.0000	1.148	1.037	911
3.	10.200	79.1	313.2	1.0000	1.148	1.037	961
4.	10.200	81.1	313.2	1.0000	1.148	1.037	984
5.							

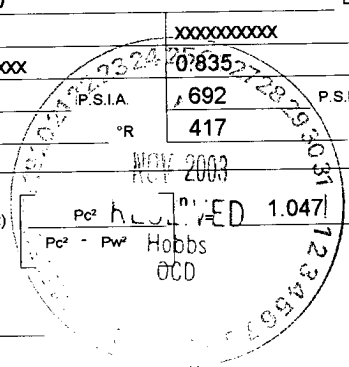
NO.	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	37	Mcf/bbl.
1.	0.45	520	1.32	0.930	A.P.I. Gravity of Liquid Hydrocarbons	57.000	Deg.
2.	0.45	520	1.32	0.930	Specific Gravity Separator Gas	0.759	XXXXXXXXXX
3.	0.45	520	1.32	0.930	Specific Gravity Flowing Fluid	XXXXXXXXXX	XXXXXXXXXX
4.	0.45	520	1.32	0.930	Critical Pressure	695	692 P.S.I.A.
5.					Critical Temperature	392	417 °R

Pc	2113.2	Pc ²	4465.6	(1) $\frac{Pc^2}{Pc^2 - Pw^2} = 1.069$	(2) $\frac{Pc^2}{Pc^2 - Pw^2} = 1.047$
NO.	P ₁ ²	P _w ²	P _w ²	Pc ² - P _w ²	
1.	889.6	948.5	899.7	3565.9	
2.	537.6	741.5	549.8	3915.8	
3.	273.7	537.0	288.3	4177.3	
4.	98.1	338.4	114.5	4351.1	
5.					

Absolute Open Flow	1006	Mcf @ 15.025	Angle of Slope θ	35	Slope, n	0.690
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Remarks:

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
<i>[Signature]</i>	Noel Gomez	Misty Carter	George Freeman



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

DATE 10/8/03

COMPANY Yates Petroleum Corporation LEASE Strait State Unit WELL NO. 1

LOCATION: Unit I Section 33 Township 10S Range 34E

L 12840 H 12840 L/H 1.000 G 0.835 %CO₂ 7.123 %N₂ 1.506 %H₂S 0.000

d 2.441 Fr 0.010495 GH 10718.8 Pcr 692.1 Tcr 417.4

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.859	0.911	0.961	0.984	
2 Tw(W.H.°R)	520	520	520	520	
3 Ts(B.H.°R)	650	650	650	650	
4 T = (Tw+Ts) / 2	584.7	584.7	584.7	584.7	
5 Z (Est.)	0.790	0.834	0.880	0.926	
6 TZ	462.0	487.4	514.3	541.3	
7 GH / TZ	23.199	21.992	20.841	19.800	
8 e ^s (Table XIV)	2.387	2.281	2.185	2.101	
9 1-e ^s (Table XIV)	0.581	0.562	0.542	0.524	
10 Pt	943.2	733.2	523.2	313.2	
11 Pt ² / 1000	889.6	537.6	273.7	98.1	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	4.849	5.115	5.398	5.681	
14 FcQm	4.17	4.66	5.18	5.59	
15 L / H(FcQm) ²	17.4	21.7	26.9	31.3	
16 Fw = L / H(FcQm) ² (1-e ^s)	10.08	12.21	14.58	16.39	
17 Pw ² = Pt ² +Fw	899.7	549.8	288.3	114.5	
18 Ps ² = e ^s Pw ²	2147.4	1254.0	629.9	240.5	
19 Ps	1465.4	1119.8	793.7	490.5	
20 P = (Pt+Ps) / 2	1204.3	926.5	658.4	401.8	
21 Pr = (P / Pcr)	1.74	1.34	0.95	0.58	
22 Tr = (T / Tcr)	1.40	1.40	1.40	1.40	
23 Z (Table XI)	0.790	0.834	0.880	0.926	

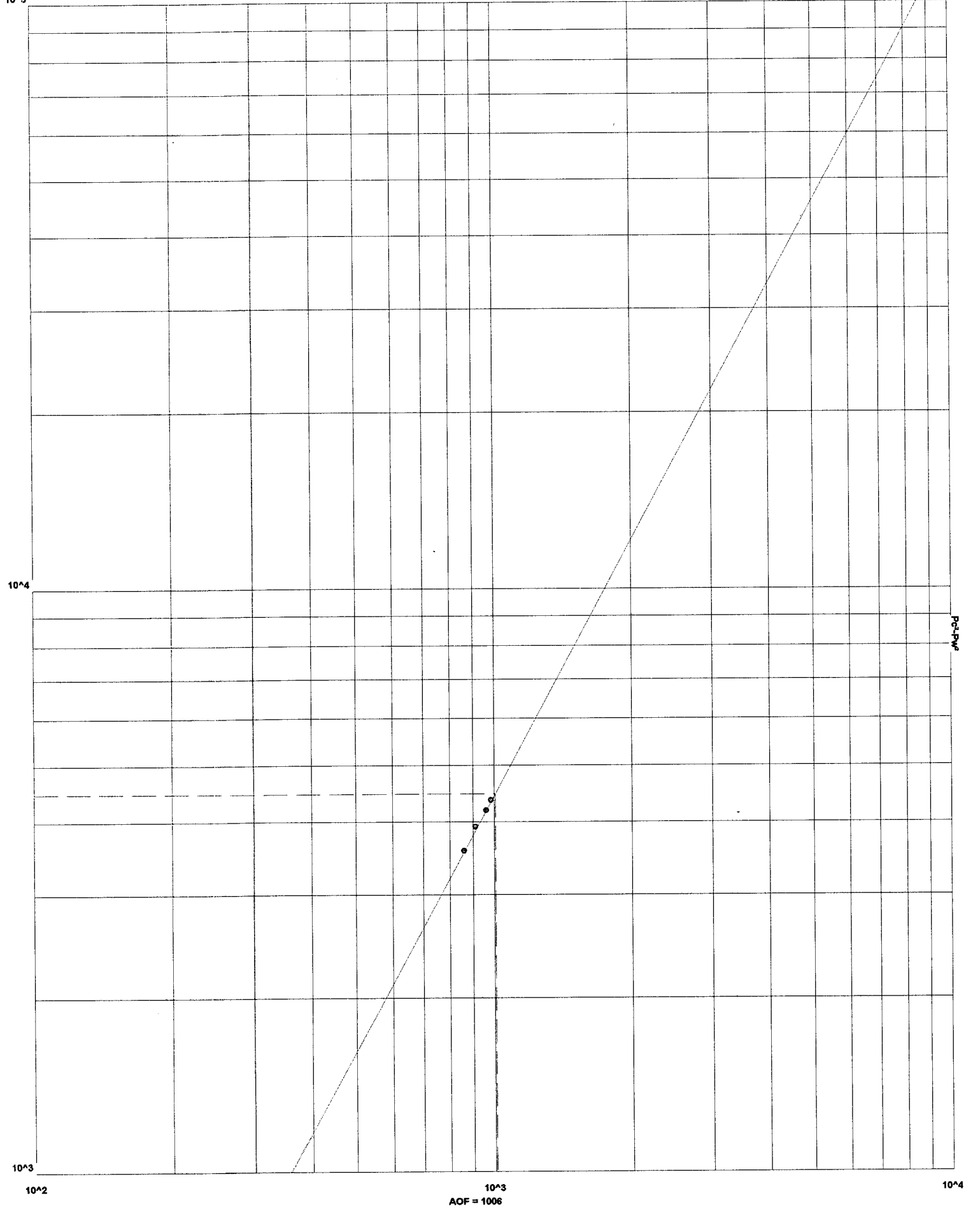
Company
Well
Location

Yates Petroleum Corporation
Strait State Unit #1
I 33-10S-34E

County
Date

Lea
10-8-03

Q, Mcfd



10³
AOF = 1006

P-R-PWF

10²

10⁴

10⁴

10³