

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR 3 WELL

Form C-122

C/SF

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 2/26/1999	
Company Yates Petroleum Corp		Connection Yates Petroleum Corp	
Pool Hoag Tank		Formation Morrow	
Completion Date 2/23/1999	Total Depth 9200	Plug Back TD 9159	Elevation 3601
Csg. Size 7.000	Wt. 26.000	d 6.276	Set At 9200
Perforations: From 8897 To 8907			
Tbg. Size 2.875	Wt. 6.500	d 2.441	Set At 8871
Perforations: From 8897 To 8907			
Type Well Single	Packer Set At 8877	Unit F	Sec 24
Producing Thru Tubing	Resv. Temp. °F 148 @ 8900	Mean Temp. °F 62	Baro. Press. - Pa 13.2
County Eddy		State New Mexico	
L 9200	H 9200	Gg 0.603	%CO ₂ 0.468
%N ₂ 0.649	%H ₂ S 0.000	Prover 0.000	Meter Run 3.000
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	800	0			0
1.	3.068	x	1.250	100	3.0	60	600	60			24
2.	3.068	x	1.250	100	7.0	60	433	60			24
3.	3.068	x	1.250	100	10.0	60	267	60			24
4.	3.068	x	1.250	100	12.0	60	100	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	7.577	18.4	113.2	1.0000	1.288	1.009	181
2	7.577	28.1	113.2	1.0000	1.288	1.009	277
3	7.577	33.6	113.2	1.0000	1.288	1.009	331
4	7.577	36.9	113.2	1.0000	1.288	1.009	363
5							

NO.	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	0.17	520	1.47	0.982	0	
2.	0.17	520	1.47	0.982	0.000	
3.	0.17	520	1.47	0.982	0.603	XXXXXXXXXX
4.	0.17	520	1.47	0.982	0.603	0.603
5.						

P _c 813.2	P _c 661.3		
NO.	P _i	P _w	P _w ²
1.	376.0	613.5	376.3
2.	199.1	447.1	199.9
3.	78.5	282.2	79.6
4.	12.8	119.2	14.2
5.			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.137$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.115$	
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 369$			

Absolute Open Flow 369	Mcf/d @ 15.025	Angle of Slope θ 40	Slope, n 0.845
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Remarks:			

Approved By Commission:	Conducted By: Shannon Moss	Calculated By: Katie Brunson	Checked By: Pinson McWhorter
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WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

DATE 2/26/1999

COMPANY Yates Petroleum Corp LEASE RODEN GD FEDERAL WELL NO. 3

LOCATION: Unit F Section 24 Township 19S Range 24E

L 9200 H 9200 L / H 1.000 G 0.603 %CO₂ 0.468 %N₂ 0.649 %H₂S 0.000

d 2.441 Fr 0.010495 GH 5547.6 Pcr 672.8 Tcr 354.4

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.181	0.277	0.331	0.363	
2 Tw(W.H.°R)	520	520	520	520	
3 Ts(B.H.°R)	608	608	608	608	
4 T = (Tw+Ts) / 2	563.7	563.7	563.7	563.7	
5 Z (Est.)	0.920	0.941	0.962	0.984	
6 TZ	518.7	530.4	542.4	554.8	
7 GH / TZ	10.694	10.460	10.228	10.000	
8 e ^{as} (Table XIV)	1.493	1.480	1.467	1.455	
9 1-e ^{as} (Table XIV)	0.330	0.324	0.319	0.313	
10 Pt	613.2	446.2	280.2	113.2	
11 Pt ² / 1000	376.0	199.1	78.5	12.8	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	5.444	5.566	5.692	5.822	
14 FcQm	0.99	1.54	1.89	2.11	
15 L / H(FcQm) ²	1.0	2.4	3.6	4.5	
16 Fw = L / H(FcQm) ² (1-e ^{as})	0.32	0.77	1.13	1.40	
17 Pw ² = Pt ² +Fw	376.3	199.9	79.6	14.2	
18 Ps ² = e ^{as} Pw ²	562.0	295.8	116.9	20.7	
19 Ps	749.7	543.9	341.9	143.8	
20 P = (Pt+Ps) / 2	681.4	495.1	311.0	128.5	
21 Pr = (P / Pcr)	1.01	0.74	0.46	0.19	
22 Tr = (T / Tcr)	1.59	1.59	1.59	1.59	
23 Z (Table XI)	0.920	0.941	0.962	0.984	

Well
Location
10^4

RODEN GD FEDERAL #3
F 24-19S-24E

County
Date

Eddy
2-26-1999

Q, Mcfd

10^3

P₀²/P_w²

10^2

10^2

10^3
AOF = 389

10^4

