

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

Form C-122 *9/57*

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 5/28/1999				
Company Yates Petroleum Corp					Connection Agave Energy Company				
Pool Undesignated					Formation Atoka-Morrow				
Completion Date 5/25/1999			Total Depth 8565		Plug Back TD 8180		Elevation 3904		
Csg. Size 5.000	Wt. 18.000	d 4.276	Set At 8565	Perforations: From 7944 To 7973					
Tbg. Size 2.875	Wt. 6.500	d 2.441	Set At 7842	Perforations: From 7944 To 7973					
Type Well Single					Packer Set At 7850		County Eddy		
Producing Thru Tubing		Resv. Temp. °F 160 @ 7825		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State New Mexico	
L 8565	H 8565	Gg 0.611	%CO ₂ 0.415	%N ₂ 0.816	%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
SI.	0.000	x	0.000	0	0.0	0	775	0			0
1.	2.067	x	1.000	330	10.0	60	490	60			24
2.	2.067	x	1.000	330	12.0	60	437	60			24
3.	2.067	x	1.000	330	14.0	60	383	60			24
4.	2.067	x	1.000	330	16.0	60	330	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.	4.946	58.6	343.2	1.0000	1.279	1.030	382
2.	4.946	64.2	343.2	1.0000	1.279	1.030	418
3.	4.946	69.3	343.2	1.0000	1.279	1.030	452
4.	4.946	74.1	343.2	1.0000	1.279	1.030	483
5.							

NO.	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	0		Mcf/bbl.
					A.P.I. Gravity of Liquid Hydrocarbons	0.000		Deg.
1.	0.51	520	1.46	0.943	Specific Gravity Separator Gas	0.611		XXXXXXXXXX
2.	0.51	520	1.46	0.943	Specific Gravity Flowing Fluid	XXXXXXXXXX		0.611
3.	0.51	520	1.46	0.943	Critical Pressure	672		P.S.I.A. 672
4.	0.51	520	1.46	0.943	Critical Temperature	357		°R 357
5.								

Pc	788.2	Pc²	621.3
NO.	Pt²	Pw	Pw²
1.	253.2	504.6	254.6
2.	202.7	452.1	204.4
3.	157.0	398.7	159.0
4.	117.8	346.5	120.1
5.			

$$(1) \frac{Pc^2}{Pc^2 - Pw^2} = 1.490$$

$$AOF = Q \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 558$$

$$(2) \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1.335$$

Absolute Open Flow	558	Mcf/d @ 15.025	Angle of Slope θ	36	Slope, n	0.725
Remarks:						
Approved By Commission:		Conducted By: Johnny Blount		Calculated By: Katie Brunson		Checked By: Pinson McWhorter

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

DATE 5/28/1999

COMPANY Yates Petroleum Corp LEASE ALTWEIN B FEDERAL WELL NO. 1

LOCATION: Unit N Section 12 Township 19S Range 23E

L 8565 H 8565 L/H 1.000 G 0.611 %CO₂ 0.415 %N₂ 0.816 %H₂S 0.000

d 2.441 Fr 0.010495 GH 5233.2 P_{cr} 672.0 T_{cr} 356.7

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.382	0.418	0.452	0.483	
2 Tw(W.H.°R)	520	520	520	520	
3 Ts(B.H.°R)	620	620	620	620	
4 T = (Tw+Ts) / 2	569.7	569.7	569.7	569.7	
5 Z (Est.)	0.935	0.942	0.948	0.955	
6 TZ	532.7	536.4	540.2	544.0	
7 GH / TZ	9.823	9.756	9.687	9.620	
8 e ^{As} (Table XIV)	1.445	1.442	1.438	1.434	
9 1-e ^{As} (Table XIV)	0.308	0.306	0.305	0.303	
10 Pt	503.2	450.2	396.2	343.2	
11 Pt ² / 1000	253.2	202.7	157.0	117.8	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	5.591	5.630	5.670	5.709	
14 FcQm	2.13	2.35	2.56	2.76	
15 L / H(FcQm) ²	4.6	5.5	6.6	7.6	
16 Fw = L / H(FcQm) ² (1-e ^{As})	1.40	1.70	2.00	2.30	
17 Pw ² = Pt ² +Fw	254.6	204.4	159.0	120.1	
18 Ps ² = e ^{As} Pw ²	368.0	294.7	228.6	172.3	
19 Ps	606.6	542.8	478.1	415.0	
20 P = (Pt+Ps) / 2	554.9	496.5	437.2	379.1	
21 Pr = (P / P _{cr})	0.83	0.74	0.65	0.56	
22 Tr = (T / T _{cr})	1.60	1.60	1.60	1.60	
23 Z (Table XI)	0.935	0.942	0.948	0.955	

Company Yates Petroleum Corp
Well ALTWEIN B FEDERAL #1
Location N 12-19S-23E

County Eddy
Date 5-28-1999

