

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT, ONE POINT BACK PRESSURE TEST FOR GAS / OIL

Form C-122

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 10/17/1999				
Company Yates Petroleum Corp				Connection Yates Petroleum Corp					
Pool Sand Springs				Formation Atoka Morrow (Gas)				Unit	
Completion Date 9/24/1999		Total Depth 13318		Plug Back TD 12288		Elevation 4145		Farm or Lease Name SAND SPRING ASU STATE	
Csg. Size 5.500	Wt. 17.000	d 4.892	Set At 13300	Perforations: From 11933 To 12188			Well No. 1		
Tbg. Size 2.875	Wt. 6.500	d 2.441	Set At 11850	Perforations: From 11974 To 12188			Unit Sec. Twp. Rge. C 11 11S 34E		
Type Well Single				Packer Set At 11857			County Lea		
Producing Thru Tubing		Resv. Temp. °F 176 @ 11975		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State New Mexico	
L 13300	H 13300	Gg 0.669	%CO ₂ 0.759	%N ₂ 1.534	%H ₂ S 0.000	Prover 0.000	Meter Run 2.000	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	1240	0			0
1.	2.067	x	1.500	820	20.0	60	1040	60			24
2.	2.067	x	1.500	820	30.0	60	967	60			24
3.	2.067	x	1.500	820	41.0	60	893	60			24
4.	2.067	x	1.500	820	51.0	60	820	60			24
5.		x									

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{hwP_m}$	Pressure Pm	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1.	12.760	129.1	833.2	1.0000	1.223	1.090	2196
2.	12.760	158.1	833.2	1.0000	1.223	1.090	2689
3.	12.760	184.8	833.2	1.0000	1.223	1.090	3144
4.	12.760	206.1	833.2	1.0000	1.223	1.090	3506
5.							

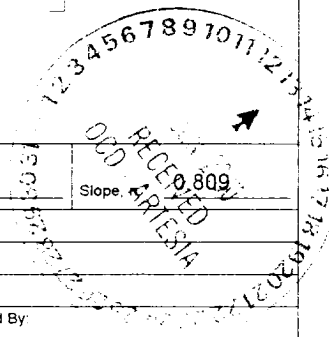
NO.	Fr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	0	Mcf/bbl.
					A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg
1.	1.24	520	1.39	0.841	Specific Gravity Separator Gas	0.669	XXXXXXXXXX
2.	1.24	520	1.39	0.841	Specific Gravity Flowing Fluid	XXXXXXXXXX	0.669
3.	1.24	520	1.39	0.841	Critical Pressure	670	P.S.I.A 670 P.S.I.A
4.	1.24	520	1.39	0.841	Critical Temperature	373	°R 373 °R
5.							

Pc	1253.2	Pc'	1570.5
NO.	P _w	P _w	P _w
1.	1109.2	1082.6	1172.0
2.	960.8	1027.6	1056.0
3.	821.2	976.1	952.7
4.	694.2	927.2	859.6
5.			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.053$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.467$	
$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 6634$			

Absolute Open Flow	6634	Mcf/d @ 15.025	Angle of Slope	0	39	Slope, %	0.809
Remarks							

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

DATE 10/17/1999

COMPANY Yates Petroleum Corp LEASE SAND SPRING ASU STATE WELL NO. 1

LOCATION: Unit C Section 11 Township 11S Range 34E

L 13300 H 13300 L/H 1.000 G 0.669 %CO₂ 0.759 %N₂ 1.534 %H₂S 0.000

d 2.441 Fr 0.010495 GH 8897.7 Pcr 670.3 Tcr 373.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	2.196	2.689	3.144	3.506	
2 Tw(W.H.°R)	520	520	520	520	
3 Ts(3.H.°R)	636	636	636	636	
4 T = (Tw+Ts) / 2	577.7	577.7	577.7	577.7	
5 Z (Est.)	0.846	0.854	0.861	0.868	
6 TZ	489.0	493.1	497.3	501.6	
7 GH / TZ	18.197	18.044	17.891	17.739	
8 e ^s (Table XIV)	1.979	1.967	1.957	1.946	
9 1-e ^{-s} (Table XIV)	0.495	0.492	0.489	0.486	
10 Pt	1053.2	980.2	906.2	833.2	
11 Pt ² / 1000	1109.2	960.8	821.2	694.2	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	5.132	5.175	5.219	5.264	
14 FcQm	11.27	13.92	16.41	18.46	
15 L / H(FcQm) ²	127.0	193.7	269.3	340.7	
16 Fw = L / H(FcQm) ² (1-e ^{-s})	62.79	95.24	131.53	165.42	
17 Pw ² = Pt ² +Fw	1172.0	1056.0	952.7	859.6	
18 Ps ² = e ^s Pw ²	2319.2	2077.5	1864.1	1672.5	
19 Ps	1522.9	1441.4	1365.3	1293.3	
20 P = (Pt+Ps) / 2	1288.0	1210.8	1135.8	1063.2	
21 Pr = (P / Pcr)	1.92	1.81	1.69	1.59	
22 Tr = (T / Tcr)	1.55	1.55	1.55	1.55	
23 Z (Table XI)	0.846	0.854	0.861	0.868	

Company
Well
Location

Yates Petroleum Corp
SAND SPRING ASU STATE #1
C 11-11S-34E

County
Date

Lea
10-17-1999

