

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

Form C-122

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 2/28/1999	
Company Yates Petroleum Corp				Connection Agave Energy Company			
Pool Cemetery				Formation Morrow (Gas)		Unit	
Completion Date 3/4/1999		Total Depth 9726		Plug Back TD 9570		Elevation 3605	
Farm or Lease Name HILLVIEW AHE FEDERAL							
Csg. Size 4.500	Wt. 11.600	d 4.000	Set At 9724	Perforations: From 9225 To 9336			Well No. 7
Tbg. Size 2.375	Wt. 4.700	d 1.990	Set At 9159	Perforations: From 9225 To 9336			Unit Sec. Twp. Rge. M 13 20S 24E
Type Well Single				Packer Set At 9168		County Eddy	
Producing Thru Tubing		Resv. Temp. °F 150 @ 9300		Mean Temp. °F 62		Baro. Press. - Pa 13.2	
State New Mexico							
L 9724	H 9724	Gg 0.609	%CO ₂ 2.929	%N ₂ 1.269	%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	1200	0			0
1.	2.067	x	0.375	240	2700.0	60	700	60			24
2.	2.067	x	0.375	240	3450.0	60	547	60			24
3.	2.067	x	0.375	240	4050.0	60	393	60			24
4.	2.067	x	0.375	240	4486.0	60	240	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 Fcy	Rate of Flow Q, Mcfd
1.	0.669	826.8	253.2	1.0000	1.281	1.020	723
2.	0.669	934.6	253.2	1.0000	1.281	1.020	817
3.	0.669	1012.6	253.2	1.0000	1.281	1.020	885
4.	0.669	1065.8	253.2	1.0000	1.281	1.020	932
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.	0.37	520	1.48	0.961	Specific Gravity Separator Gas	0.609	XXXXXXXXXX
2.	0.37	520	1.48	0.961	Specific Gravity Flowing Fluid	XXXXXXXXXX	0.609
3.	0.37	520	1.48	0.961	Critical Pressure	682	P.S.I.A. 682 P.S.I.A.
4.	0.37	520	1.48	0.961	Critical Temperature	351	°R 351 °R
5.							

Pc	1213.2	Pc'	1471.9
NO.	Pt'	Pw	Pw'
1.	508.7	724.0	524.2
2.	313.8	578.1	334.2
3.	165.0	435.2	189.4
4.	64.1	302.9	91.7
5.			

(1) $\frac{Pc^2}{Pc^2 - Pw^2} = 1.294$		(2) $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1.188$	
AOF = Q $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 971$			

Absolute Open Flow	971	Mcf @ 15.025	Angle of Slope θ	34	Slope, n	0.670
Remarks:						

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	Curtis Priddy	Katie Brunson	Pinson McWhorter

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

DATE 2/28/1999

COMPANY Yates Petroleum Corp LEASE HILLVIEW AHE FEDERAL WELL NO. 7

LOCATION: Unit M Section 13 Township 20S Range 24E

L 9724 H 9724 L / H 1.000 G 0.609 %CO₂ 2.929 %N₂ 1.269 %H₂S 0.000

d 1.990 Fr 0.017894 GH 5921.9 Pcr 682.2 Tcr 350.5

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.723	0.817	0.885	0.932	
2 Tw(W.H.°R)	520	520	520	520	
3 Ts(B.H.°R)	610	610	610	610	
4 T = (Tw+Ts) / 2	564.7	564.7	564.7	564.7	
5 Z (Est.)	0.913	0.930	0.947	0.964	
6 TZ	515.4	524.9	534.7	544.5	
7 GH / TZ	11.490	11.282	11.074	10.875	
8 e ^Λ s(Table XIV)	1.538	1.527	1.515	1.504	
9 1-e ^Λ -s(Table XIV)	0.350	0.345	0.340	0.335	
10 Pt	713.2	560.2	406.2	253.2	
11 Pt ² / 1000	508.7	313.8	165.0	64.1	
12 Fr (Table XV)	0.017894	0.017894	0.017894	0.017894	
13 Fc = FrTZ	9.223	9.392	9.569	9.744	
14 FcQm	6.67	7.68	8.47	9.08	
15 L / H(FcQm) ²	44.5	58.9	71.8	82.4	
16 Fw = L / H(FcQm) ² (1-e ^Λ -s)	15.57	20.33	24.40	27.61	
17 Pw ² = Pt ² +Fw	524.2	334.2	189.4	91.7	
18 Ps ² = e ^Λ sPw ²	806.4	510.1	286.9	137.9	
19 Ps	898.0	714.2	535.6	371.4	
20 P = (Pt+Ps) / 2	805.6	637.2	470.9	312.3	
21 Pr = (P / Pcr)	1.18	0.93	0.69	0.46	
22 Tr = (T / Tcr)	1.61	1.61	1.61	1.61	
23 Z (Table XI)	0.913	0.930	0.947	0.964	

Q, Mcfd

10^3

10^2

10^2

10^3
AOF = 971

P_i-P_{wf}

10^4

