MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

451

Type Test			Test Date	
[X] Initial	[ ] Annual	[ ] Special	1/28/2000	

Company	Connection	
Yates Petroleum Corp	Agave Energy	
Pool	**Formation**	**Unit**
Diamond Mound	Atoka	

Completion Date	Total Depth	Plug Back TD	Elevation	Farm or Lease Name
10/13/1999	8900	8825	3439	Lucky Strike AST Federal Com

Csg. Size	Wt.	d	Set At	Perforations:	Well No.
4.500	11.600	4.000	8900	From 8398 To 8402	1

Tbg. Size	Wt.	d	Set At	Perforations:	Unit	Sec.	Twp.	Rge.
2.375	4.600	2.041	8301	From 8398 To 8402	M	28	16S	27E

Type Well	Packer Set At	County
Single	8309	Eddy

Producing Thru	Resv. Temp. °F	Mean Temp. °F	Baro. Press. - Pa	State
Tubing	142 @ 8309	62	13.2	New Mexico

L	H	Gg	$\%CO_2$	$\%N_2$	$\%H_2S$	Prover	Meter Run	Taps
8900	8900	0.650	0.215	0.578	0.000	0.000	2.000	Flange

	FLOW DATA					TUBING DATA		CASING DATA		
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	Duration of Flow
SI.	0.000	x	0.000	0	0.0	0	2300	0			0
1.	2.067	x	1.500	540	27.0	60	690	60			24
2.	2.067	x	1.500	540	28.0	60	640	60			24
3.	2.067	x	1.500	540	28.0	60	590	60			24
4.	2.067	x	1.500	540	29.0	60	540	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.	12.760	122.2	553.2	1.0000	1.240	1.057	2044
2.	12.760	124.5	553.2	1.0000	1.240	1.057	2081
3.	12.760	124.5	553.2	1.0000	1.240	1.057	2081
4.	12.760	126.7	553.2	1.0000	1.240	1.057	2118
5.							

NO.	Pr	Temp °R	Tr	Z
1.	0.83	520	1.40	0.896
2.	0.83	520	1.40	0.896
3.	0.83	520	1.40	0.896
4.	0.83	520	1.40	0.896
5.				

Gas Liquid Hydrocarbon Ratio	0 Mcf/bbl.	
A.P.I. Gravity of Liquid Hydrocarbons	0.000 Deg.	
Specific Gravity Separator Gas	0.650	xxxxxxxxxx
Specific Gravity Flowing Fluid	xxxxxxxxxx	0.650
Critical Pressure	670 P.S.I.A.	670 P.S.I.A.
Critical Temperature	371 °R	371 °R

Pc 2313.2 Pc^2 5350.9

NO.	Pt²	Pw	Pw²	Pc² - Pw²
1.	494.5	772.4	596.5	4754.3
2.	426.7	730.4	533.4	4817.4
3.	363.9	686.7	471.6	4879.3
4.	306.0	647.0	418.6	4932.3
5.				

(1) $\frac{Pc^2}{Pc^2 - Pw^2}$ = 1.111 (2) $\left[\frac{Pc^2}{Pc^2 - Pw^2}\right]^n$ = 1.108

AOF = Q $\left[\frac{Pc^2}{Pc^2 - Pw^2}\right]^n$ = 2306

Absolute Open Flow 2306 Mcfd @ 15.025 Angle of Slope θ 44 Slope, n 0.974

Remarks:

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Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	Tony Vasquez	Mykol Reno	Pinson McWhorter

WORKSHEET FOR C. CULATION OF STATIC COLUMN W. HEAD PRESSURE (Pw) C-122D

DATE 1/28/2000

COMPANY Yates Petroleum Corp LEASE Lucky Strike AST Federal Com WELL NO. 1

LOCATION: Unit M Section 28 Township 16S Range 27E

L 8900 H 8900 L / H 1.000 G 0.650 %CO_2 0.215 %N_2 0.578 %H_2S 0.000

d 2.041 Fr 0.016749 GH 5785.0 Pcr 670.2 Tcr 370.5

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	2.044	2.081	2.081	2.118	
2 Tw(W.H.°R)	520	520	520	520	
3 Ts(B.H.°R)	602	602	602	602	
4 T = (Tw+Ts) / 2	560.7	560.7	560.7	560.7	
5 Z (Est.)	0.884	0.891	0.897	0.904	
6 TZ	495.6	499.3	503.1	506.9	
7 GH / TZ	11.673	11.586	11.498	11.413	
8 e^s(Table XIV)	1.549	1.544	1.539	1.534	
9 1-e^-s(Table XIV)	0.354	0.352	0.350	0.348	
10 Pt	703.2	653.2	603.2	553.2	
11 Pt^2 / 1000	494.5	426.7	363.9	306.0	
12 Fr (Table XV)	0.016749	0.016749	0.016749	0.016749	
13 Fc = FrTZ	8.301	8.363	8.427	8.489	
14 FcQm	16.97	17.41	17.54	17.98	
15 L / H$(FcQm)^2$	287.9	303.0	307.7	323.4	
16 Fw = L / H$(FcQm)^2(1-e^{-s})$	102.05	106.78	107.76	112.59	
17 $Pw^2 = Pt^2+Fw$	596.5	533.4	471.6	418.6	
18 $Ps^2 = e^sPw^2$	924.1	823.7	725.8	642.3	
19 Ps	961.3	907.6	852.0	801.4	
20 P = (Pt+Ps) / 2	832.3	780.4	727.6	677.3	
21 Pr = (P / Pcr)	1.24	1.16	1.09	1.01	
22 Tr = (T / Tcr)	1.51	1.51	1.51	1.51	
23 Z (Table XI)	0.884	0.891	0.897	0.904	

Location M 28-16S-47E

Date 1-28-2000