

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date JAN, 19, 1993			
Company YATES ENERGY CORPORATION				Connection FLARE			
Pool TONITO				Formation ATOKA			
Completion Date 1-14-93		Total Depth 13,000		Plug Back TD 12,980		Elevation 3,627.9'	
Csg. Size 5 5		WI. 20.0		Set At 4.778		Perforations From 12584 To 12589	
Thg. Size 2.875		WI. 6.5		Set At 2.441		Perforations From To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE (gas)				Packer Set At 12504		County lea	
Producing Thru Thg. (gas)		Reservoir Temp. °F 176° 12587		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L 12587		H 12587		G _g 0.704		% CO ₂ 0.265	
				% N ₂ 2.114		% H ₂ S 0	
				Prover 0		Meter Run 3.0	
						Taps Flg	

FLOW DATA						TUBING DATA		BHP 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									4228	176	72.0
1.	3.0	x	1.75	490	2	68	2087	45	3891	176	1.0
2.	3.0	x	1.75	510	7.5	68	1642	45	3267	176	1.0
3.	3.0	x	1.75	510	18.0	66	1190	45	2115	176	1.0
4.	3.0	x	1.75	510	20	70	790	45	1387	176	1.0
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcd
1	15.87	31.72	503.2	0.9924	1.192	1.061	632
2	15.87	62.64	523.2	0.9924	1.192	1.063	1250
3	15.87	97.04	523.2	0.9943	1.192	1.063	1940
4	15.87	102.29	523.2	0.9905	1.192	1.062	2035
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	0.757	528	1.36	0.889	9.039		0.704		665	387
2	0.787	528	1.36	0.885						
3	0.787	526	1.36	0.885						
4	0.787	530	1.37	0.886						
5										

NO.	P _c	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} =$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$
1	4241.2	17987	3904.2	15242	6.55	3.58
2			3280.2	10760		
3			2128.2	4520		
4			1400.2	1961		
5						

Absolute Open Flow 2283 Mcd @ 15.025				Angle of Slope θ		Slope, n 0.679	
Remarks: choke sizes- 1st rate=10/64 2nd=14/64 3rd=17/64 4th=19/64							

Approved By: Paul Kautz Geologist	Conducted By: KELTIC SERVICES	Calculated By: JIM SMITH	Checked By:
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