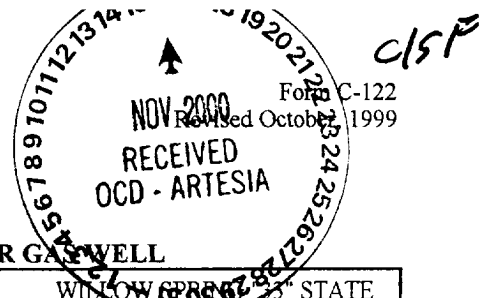


Submit in duplicate to
appropriate district office.
See Rule 401 & Rule 1122

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505



MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator RELIANCE ENERGY INC.				Lease or Unit Name WILLOW SPRING STATE			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 10/31/00		Well No. 2	
Completion Date 8/30/00		Total Depth 4256		Plug Back TD 4178		Elevation	
Unit Ltr - Sec - TWP - Rge H 33 4S 25E							
Csg. Size 5 1/2	Wt. 15.5	d 4.892	Set At 4217	Perforations: From: 3620 To: 4006		County CHAVES	
Tbg. Size 2 3/8	Wt. 4.7	d 1.995	Set At 4030	Perforations: From: To:		Pool <i>Pecos Slope Abo</i>	
Type Well-Single-Bradenhead-G.G. or G.O. Multiple SINGLE				Packer Set At NO PKR		Formation ABO	
Producing Thru TUBING		Reservoir Temp. °F 109.5		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
Connection SALES							
L 4030	H 4030	Gg 0.66	%CO ₂ 0.08	%N ₂ 8.84	%H ₂ S N/A	Prover N/A	Meter Run 2.067
						Taps FLG	
FLOW DATA				TUBING DATA			
CASING DATA				Duration of Flow			
No.	Prover Line Size	Orifice Size	Press p.s.i.g.	Diff. h _w	Temp. °F	Press p.s.i.g.	Temp. °F
1	2.067 X .750		135	14	60	150	
2							
3							
4							
5							
RATE OF FLOW CALCULATIONS							
No.	COEFFICIENT (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress Factor F _{pv}	Rate of Flow Q, Mcfd
1	2.709	45.5	148.2	1	1.231	1.047	125
2							
3							
4							
5							
No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio N/A Mcf/bbl.		
1	0.78	520	1.45	0.912	A.P. I. Gravity of Liquid Hydrocarbons N/A Deg		
2					Specific Gravity Separator Gas 0.66 XXXXXX		
3					Specific Gravity Flowing Fluid N/A XXXXXX N/A		
4					Critical Pressure 660 P.S.I.A. P.S.I.A.		
5					Critical Temperature 357 R. R.		
P _c 943.2		P _{c2} 889.6					
No.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.031$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.031$		
1	26.6	164	26.9	8627			
2							
3							
4							
5					AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 0.129$		
Absolute Open Flow 129		Mcf/d @ 15.025		Angle of Slope (°): 45		Slope n: 1	
Remarks: * NO LIQUID MADE DURING TEST.							
Approved By Division:		Conducted By: PRO WELL TESTING		Calculated By: MB		Checked By: BM	