

3-20-91
clsf

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 02-26-91	
Company Santa Fe Energy Resources, Inc.				Connection Pinnecil			
Pool <i>Laguna Grande Mor.</i>				Formation Morrow		Unit	
Completion Date 02-07-91		Total Depth 13,630		Plug Back TD 13,547		Elevation	
Farm or Lease Name Laguna Salada							
Csg. Size 4 1/2		Wt. 13.5		Set At 13,630		Perforations From 13,158 To 13,186	
Thq. Size 2 3/8"		Wt. 4.7		Set At 13,056		Perforations From OPEN To END	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single						Packer Set At 13,056	
Producing Thru Tubing		Reservoir Temp. °F 205 @ 13,071		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L *13,071		H *13,071		G _g .582		% CO ₂ 1.09	
				% N ₂ .26		% H ₂ S ---	
				Prover		Meter Run 4.026	
						Taps Flange	
FLOW DATA				TUBING DATA		CASING DATA	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.
SI							3765
1.	4	X	1.750	605	5.5	72	3440
2.	4	X	1.750	610	11.00	76	3260
3.	4	X	1.750	620	21.00	72	2910
4.	4	X	1.750	640	30.00	70	2605
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 _{sp}	Rate of Flow Q, Mcfd
1	14.93	58.31	618.2	.9887	1.311	1.048	1,183
2	14.93	82.80	623.2	.9850	1.311	1.049	1,645
3	14.93	115.31	633.2	.9887	1.311	1.049	2,341
4	14.93	139.99	653.2	.9905	1.311	1.051	2,852
5							
NO. P_r Temp. °R T_r Z Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl. A.P.I. Gravity of Liquid Hydrocarbons _____ Deg. Specific Gravity Separator Gas .582 Specific Gravity Flowing Fluid _____ Critical Pressure ***676 P.S.I.A. Critical Temperature ***349 °R							
NO. P₁² P_w² P_r² P_r² - P_w² (1) $\frac{P_c^2}{P_r^2 - P_w^2} = 2.088$ (2) $\left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = 1.803$ AOF = Q $\left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = 5.142$							
Absolute Open Flow 5,142 Mcfd @ 15.025 Angle of Slope 51.3 Slope, n .801							
Remarks: **=BHP Instrument set @ this depth. ***=Pc & Pw cal. from known BHP's ***=corrected to 1.09% CO2							
NO FLUID PRODUCED DURING TEST							
Approved By Division		Conducted By: Pro Well Testers		Calculated By: BM		Checked By: BM	
