

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 4/23/91			
Company Mitchell Energy Corporation				Connection					
Pool North Pearl				Formation Morrow				Unit	
Completion Date 4/19/91		Total Depth 12775'		Plug Back TD 12684'		Elevation 3694' KB		Farm or Lease Name Coyote State	
Ceq. Size 5 1/2"	Wt. 17#	d 4.892	Set At 12775'	Perforations: From 12416' To 12654'		Well No. 1			
Tbg. Size 2 3/8"	Wt. 4.7#	d 1.995	Set At 12410'	Perforations: From open To ended		Unit Sec. Twp. Rye. F 36 19S 35E			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple single						Packer Set At 12307'		County Lea	
Producing Thru tubing		Reservoir Temp. °F 190° @ 12280°		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2		State New Mexico	
L 12410	H 12410	G _g .666	% CO ₂ .32	% N ₂ 1.62	% H ₂ S 0	Prover	Meter Run 4.026	Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	of Flow
SI							4156				72
1.	4.026 x 1.25			50	62	79°	930	80°	pk		2 hrs
2.	4.026 x 1.25			50	70	75°	735	80°	pk		3 hrs
3.	4.026 x 1.25			70	90	70°	470	80°	pk		2 hrs
4.	4.026 x 1.25			75	92	68°	430	80°	pk		2 hrs
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, Mcfd
1	7.47	62.6	63.2	.9822	1.2254	1.0059	566
2	7.47	66.51	63.2	.9859	1.2254	1.0060	604
3	7.47	86.53	83.2	.9905	1.2254	1.0078	791
4	7.47	90.08	88.2	.9924	1.2254	1.0084	825
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio <u>11.37</u> Mcf/bbl. A.P.I. Gravity of Liquid Hydrocarbons <u>45.16</u> Deg. Specific Gravity Separator Gas <u>.666</u> XXXXXXXXX Specific Gravity Flowing Fluid <u>XXXXX</u> .934 Critical Pressure <u>669</u> P.S.I.A. 660 P.S.I.A. Critical Temperature <u>374</u> °R 463 °R	
1	.09	539	1.44	.988		
2	.09	535	1.43	.988		
3	.12	530	1.42	.985		
4	.13	528	1.41	.983		
5						

P _c 4169.2 P _c ² 17382					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.013$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.013$
NO	P _t ²	P _w	P _w ²	P _c ² - P _w ²		
1	889.6		852	16530		
2	559.8		550	16832		
3	233.5		252	17130		
4	196.4		220	17162		
5						

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 836$

Absolute Open Flow <u>836</u> Mcfd @ 15.025	Angle of Slope θ <u>45°</u>	Slope, n <u>1.0</u>
Remarks: 1st rate 10/64" choke, 2nd rate 12/64" choke, 3rd rate 16/64" choke, 4th rate 18/64" choke		
Approved By Division Conducted By: Schlumberger Testers Calculated By: Dan Tuffly Checked By:		