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State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Mitchell Energy Corporation				Lease or Unit Name Tomahawk "28" Fed Com			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 7/30/93		Well No. 1	
Completion Date 7/29/93		Total Depth 14,260'		Plug Back TD 14,162'		Elevation 3612.5' KB	
Csg. Size 5 1/2"		Wt. 17#		d 4.892"		Set At 14,258'	
Tbg. Size 2 3/8"		Wt. 4.7#		d 1.995"		Set At 13,904'	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 13,817'		Formation Morrow	
Producing Thru tbg		Reservoir Temp. °F 222 @ 13,926'		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2	
L 13,926'		H 13,926'		G _g 0.67		% CO ₂ 0.77	
				% N ₂ 0.41		% H ₂ S 0	
				Prover		Meter Run 4.026	
						Taps flange	

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
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	
SI							4680	80			12.5
1.	4	x	2.00	280	3.0	100	4000	100			1.0
2.	4	x	2.00	280	9.0	100	3300	100			1.0
3.	4	x	2.00	280	16.0	100	2770	100			1.0
4.	4	x	2.00	280	22.0	100	2030	100			1.0
5.											

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _L	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	19.81	29.66	293.2	.9636	1.2217	1.0238	708
2.	19.81	51.37	293.2	.9636	1.2217	1.0238	1227
3.	19.81	68.49	293.2	.9636	1.2217	1.0238	1636
4.	19.81	80.31	293.2	.9636	1.2217	1.0238	1918
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 135.405 Mcf/bbl.			
1.	.44	560	1.48	.954	A.P. I. Gravity of Liquid Hydrocarbons 49.0 Deg.			
2.	.44	560	1.48	.954	Specific Gravity Separator Gas .670 XXXXXXXXXX			
3.	.44	560	1.48	.954	Specific Gravity Flowing Fluid XXXXX .691			
4.	.44	560	1.48	.954	Critical Pressure 672 P.S.I.A. 671 P.S.I.A.			
5.					Critical Temperature 378 R 384 R			

P_c **4664.5** P_c² **21757**

NO.	P _c ²	P _w	P _w ²	P _c ² - P _w ²	1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.2308$	2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.2165$
1.		3952	15616	6141		
2.		3256	10601	11156		
3.		2736	7487	14270		
4.		2020	4080	17677		
5.						

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.333$$

Absolute Open Flow **2,333** Mcfd @ 15.025 Angle of Slope θ **46.7** Slope, n **.943**

Remarks: **Well made 3.0 bbls 49.0° (@ 60°F) API condensate & 3.0 bbls water during test.**

Approved By Division	Conducted By: Pro Well Testers	Calculated By: Greg Colburn	Checked By: Greg Colburn
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