

30-025-37639

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

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

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 Crazy Horse "18" Federal			
Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 12/5/92		Well No. 1	
Completion Date 12/4/92		Total Depth 12,650'		Plug Back TD 12,470'		Elevation 3576' GL	
Unit Ltr. - Sec. - TWP - Rge. E 18 19S 32E		County Lea		Pool Lusk Field McRae		Formation Morrow	
Csg. Size	Wt.	d	Set At	Perforations:		From: To:	
5 1/2"	17#/ft	4.892	12,645'	From: 12,245' To: 12,395'			
Tbg. Size	Wt.	d	Set At	Perforations:		From: To:	
2 3/8"	4.7#/ft	1.995	12,204'				
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 12,169'		Connection	
Producing Thru tbg		Reservoir Temp. °F 170° @ 12300'		Mean Annual Temp. °F 60°		Baro. Press - P 13.2	
L	H	Gg	% CO ₂	% N ₂	% H ₂ S	Prover	Meter Run
12,245'	12,245'	.663	.58	.43	0		4.026
							Taps Flange

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	Press. p.s.i.g.	
SI						3470	34	pkc	15 hr
1.	4.026 x	1.75	630	7.0	98	3100	32	pkc	1 hr
2.	4.026 x	1.75	630	19.0	88	2740	33	pkc	1 hr
3.	4.026 x	1.75	630	28.0	86	2455	34	pkc	1 hr
4.	4.026 x	1.75	630	30.0	74	2165	38	pkc	1 hr
5.									

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	$h_w P_m$	Pressure P _m	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1.	14.93	67.10	643.2	.9653	1.228	1.0530	1250
2.	14.93	110.55	643.2	.9741	1.228	1.0570	2087
3.	14.93	134.20	643.2	.9759	1.228	1.0578	2540
4.	14.93	138.91	643.2	.9868	1.228	1.0632	2672
5.							

NO.	P _r	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.	.96	558	1.48	.902	27.5	53.2	.663	.760	671	376
2.	.96	548	1.46	.895						
3.	.96	546	1.45	.894						
4.	.96	534	1.42	.885						
5.										

P _c 3537.2		p _c ² 12512		1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.119$		2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.769$	
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4494$		
1.	9692	3183	10133	2379			
2.	7580	2841	8071	4441			
3.	6092	2570	6605	5906			
4.	4745	2278	5191	7321			
5.							

Absolute Open Flow **4494** Mcfd @ 15.025 Angle of Slope θ Slope, n **.760**

Remarks:

Approved By Division _____ Conducted By: _____ Calculated By: _____ Checked By: *Dan Tuffly*
ORIGINAL SIGNED BY JERRY SEXTON Well Testers Dan Tuffly