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appropriate district office
See Rule 401 & Rule 1122

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 PENWELL ENERGY						Lease or Unit Name TOM CAT FED. COM					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 7/3/97		Well No. 1			
Completion Date 4/9/97		Total Depth 15463		Plug Back TD 14982		Elevation 3663 GR		Unit Ltr. - Sec. - TWP - Rge. F 21 23-5 32-E			
Csg. Size 4 1/2	Wt. 13.5#	d 4.892	Set At 12330	Perforations: From: 14350 To: 14358				County EDDY Lea			
Tbg. Size 2 3/8	Wt. 4.7	d 1.995	Set At 14188	Perforations: From: To:				Pool			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE						Packer Set At 14346		Formation Atoka			
Producing Thru TBG		Reservoir Temp. °F 217.5		Mean Annual Temp. °F 60°		Baro. Press - P _a 13.2		Connection Sales			
L 14350	H 14350	G _g .588	% CO ₂ .66	% N ₂ .91	% H ₂ S 0	Prover 0	Meter Run 4.027		Taps F/G		

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.	Temp. °F	
SI						2040		PKR		
1.	4.027 X 2.500		448	2.6	90°	1975	78°			60 min
2.	4.027 x 2.500		384	9.6	90°	1846	77°			60 min
3.	4.027 x 2.500		384	21.1	83°	1580	78°			60 min
4.	4.027 x 2.500		384	33.6	78°	1440	76°			60 min
5.										

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg.	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	32.64	34.6	461.2	.9723	1.304	1.036	1483
2.	32.64	61.7	397.2	.9723	1.304	1.036	2645
3.	32.64	91.5	397.2	.9786	1.304	1.037	3952
4.	32.64	115.5	397.2	.9831	1.304	1.036	5006
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl
1.	.81	550	1.58	.932	N/A	
2.	.81	550	1.58	.932	A.P. I Gravity of Liquid Hydrocarbons N/A	Deg.
3.	.80	543	1.56	.930	Specific Gravity Separator Gas .588	XXXXXXXXXX
4.	.79	538	1.55	.931	Specific Gravity Flowing Fluid N/A	N/A
5.					Critical Pressure 675	P.S.I.A. N/A
					Critical Temperature 346	P.S.I.A. R

P_c 2253.2 P_w 5076.9

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1.	13952.9	2010.7	4043.0	1033.9
2.	3456.6	1934.7	3743.2	1333.7
3.	2538.3	1783.4	3180.3	1896.6
4.	2111.8	1773.1	3144.0	1932.9
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{2.627}{13.149}$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{2.627}{13.149}$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 13.149$

Absolute Open Flow 13149	Mcf/d @ 15.025	Angle of Slope θ 45°	Slope, n 1.000
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Remarks: _____

Approved By Division	Conducted By: Pro Well Testers	Calculated By: MB	Checked By: BM
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CW