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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, Inc.				Lease or Unit Name Beretta 15 State Com.			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 1-9-98		Well No. 1	
Completion Date		Total Depth 12040		Plug Back TD 12040		Elevation	
Csg. Size 5 1/2	Wt. 17	d 4.892	Set At 11997	Perforations: From: 11638 To: 11733		County Eddy	
Tbg. Size 2 3/8	Wt. 4.7	d 1.995	Set At 11563	Perforations: From: To:		Pool S. Cael's bad Marrow	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 11563		Formation Morrow	
Producing Thru Tbg		Reservoir Temp. °F 189.6		Mean Annual Temp. °F 600		Baro. Press - P. 13.2	
L 11563		H 11563		Gg .586	% CO ₂ 1.42	% N ₂ .27	% H ₂ S 0
Prover 0		Mag. Run 4.026		Taps 0.69			

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										
1.	4.026	x 1.875	151.2	4	67 ⁰	3020		PKR.		
2.	4.026	x 1.875	162.4	14.4	73 ⁰	3000	-----	-----	-----	60 min.
3.	4.026	x 1.875	174.0	29.1	71 ⁰	2800	-----	-----	-----	60 min
4.	4.026	x 1.875	174.0	29.1	71 ⁰	2760	-----	-----	-----	60 min
5.	4.026	x 1.875	186.0	44.9	67 ⁰	2400	-----	-----	-----	60 min

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.	17.26	24.6	151.2	.9933	1.306	1.041	573
2.	17.26	48.35	162.4	.9877	1.306	1.039	1118
3.	17.26	71.15	174.0	.9896	1.306	1.039	1649
4.	17.26	91.38	186.0	.9933	1.306	1.041	2129
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio <u>N/A</u>			Mcf/bbl	
1.	.78	527	1.50	.922	A.P. I Gravity of Liquid Hydrocarbons <u>N/A</u>				
2.	.78	533	1.52	.926	Specific Gravity Separator Gas <u>.586</u>			XXXXXXX	
3.	.79	535	1.52	.926	Specific Gravity Flowing Fluid <u>N/A</u>			XXXXXXX	
4.	.78	527	1.50	.922	Critical Pressure <u>675</u>			P.S.I.A.	
5.					Critical Temperature <u>350</u>			P.S.I.A.	

P_c 3033.2 P_w 9200.3

NO.	P _c ²	P _w	P _w ²	P _c ² - P _w ²
1.	9079.4	3015.1	9090.6	109.7
2.	7914.1	2820.7	7956.2	1244.1
3.	7690.6	2789.6	7782.0	1418.3
4.	5823.5	2444.0	5973.2	3227.1
5.				

$$1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{83.845}{\quad} \quad (2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 9.116$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 5.224$$

Absolute Open Flow 5.224 Mcfd @ 15.025 Angle of Slope Θ 63.5 Slope, n .499

Remarks: *Well made no liquid during test.

Approved By Division

Conducted By:
Pro well testing

Calculated By:
M.B.

Checked By:
B.M.