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State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-122
Revised October, 1999

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator GRUY TEST MANAGEMENT CO. ✓					Lease or Unit Name PENNZOIL "9" FED COM.				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 9/19/02		Well No. 3		
Completion Date 9/13/02		Total Depth 12000		Plug Back TD 11950		Elevation 3422 GL		Unit Ltr - Sec - TWP - Rge F 9 24S 26E	
Csg. Size 5 1/2	Wt. 17	d 4.892	Set At 12000	Perforations: From: 11314 To: 11893			County EDDY		
Tbg. Size 2 7/8	Wt. 6.5	d 2.441	Set At 11248	Perforations: From: To:			Pool <i>White City Penn</i>		
Type Well-Single-Bradenhead-G.G. or G.O. Multiple SINGLE				Packer Set At 11248			Formation <i>MORROW</i>		
Producing Thru Tubing		Reservoir Temp. °F 186	Mean Annual Temp. °F 60	Baro. Press.-P _a 13.2			Connection AIR		
L 11248	H 11248	Gg 0.607	%CO ₂ 3.088	%N ₂ 0.696	%H ₂ S N/A	Prover N/A	Meter Run 4.026	Taps FLG	
FLOW DATA					TUBING DATA			CASING DATA	
No.	Prover Line Size	Orifice x 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						2813	N/A	PKR	N/A
1	4.026 X 2.000		315	3	82	2764			1 HR
2	4.026 X 2.000		315	6	90	2727			1 HR
3	4.026 X 2.000		310	20	85	2654			1 HR
4	4.026 X 2.000		320	48	78	2361			1 HR
5									
RATE OF FLOW CALCULATIONS									
No.	COEFFICIENT (24 Hour)		h _w P _m	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress Factor F _{pv}		Rate of Flow Q. Mcfd
1	19.81		31.4	328.2	0.9795	1.284	1.039		812
2	19.81		44.4	328.2	0.9723	1.284	1.036		1137
3	19.81		80.4	323.2	0.9768	1.284	1.037		2071
4	19.81		126.5	333.2	0.9831	1.284	1.039		3286
5									
No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio N/A Mcf/bbl.				
1	0.79	542	1.54	0.926	A.P. I. Gravity of Liquid Hydrocarbons N/A Deg.				
2	0.8	550	1.57	0.932	Specific Gravity Separator Gas 0.607 XXXXXXXX				
3	0.79	545	1.55	0.93	Specific Gravity Flowing Fluid N/A XXXXXX				
4	0.78	538	1.53	0.927	Critical Pressure 682 P.S.I.A. P.S.I.A.				
5					Critical Temperature 350 R. R.				
P _c 2826.2 P _{c2} 7987.4									
No.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $P_c^2 = \frac{3.61}{P_c^2 - P_w^2}$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.385$				
1		2778.8	7721.7	265.7					
2		2743.4	7526.1	461.3					
3		2677.9	7171.3	816.1					
4		2404	5779.2	2208.2					
5					AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 7837.1$				
Absolute Open Flow 7837.1					Mcf/d @ 15.025		Angle of Slope (°): 55.94		Slope n: 0.676
Remarks: * NO LIQUID MADE DURING TEST.									
Approved By Division:			Conducted By: PRO WELL TESTING		Calculated By: MERV BUECKER			Checked By: MB	