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See Rule 401 & Rule 1122

State of New Mexico
Energy Minerals and Natural Resources

Form C-122
Revised October, 1999

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

30-025-30046

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator C. W. Trainer					Lease or Unit Name Gramma Ridge "8" State				
Type Test ☐ Initial ☐ Annual ☒ Special					Test Date 01/06/2006		Well No. 1		
Completion Date 08-06-05		Total Depth 13,570'		Plug Back TD 13,430'		Elevation 3595'		Unit Ltr. - Sec. - TWP - Rge. H-8-22S-34E	
Csg. Size 4 1/2 liner		Wt. 11,550'		Perforations: 12,848' - 12,859' (01d)		From: 12,888'		To: 12,890 1/2'	
Thg. Size 2-3/8		Wt. 4.7#		Perforations: 13,410		From: 12,452'		To: 13,514 1/2'	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple single					Packer Set At none		Formation Morrow		
Producing thru tubing		Reservoir Temp. °F 186		Mean Annual Temp. °F 60		Baro. Press - P. 13.2		Connection	
L 12983	H 12983	Gg 0.684	%CO ₂ 0.042	%N ₂ 0.633	%H ₂ S	Prover		Meter Run	Taps

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									
1.	Choke	10/64"	328.0		62			405.0	65
2.		12/64"	256.0		62			328.0	65
3.		16/64"	178.0		61			256.0	65
4.		20/64"	94.0		60			178.0	65
5.								94.0	65

RATE OF FLOW CALCULATIONS							
No.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	0.417		343.0	0.9981	1.209	1.0375	179.2
2.	0.610		274.0	0.9981	1.209	1.0298	207.7
3.	1.112		193.0	0.9990	1.209	1.0212	264.7
4.	1.771		94.0	1.0000	1.209	1.0148	204.3
5.							

No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	N/A	Mcf/bbl.
1.	0.60	522	1.48	0.936	A. P. I. Gravity of Liquid Hydrocarbons	N/A	Deg.
2.	0.48	522	1.48	0.948	Specific Gravity Separator Gas	0.684	XXXXXXXXXX
3.	0.34	521	1.48	0.963	Specific Gravity Flowing Fluid	XXXXXX	
4.	0.16	520	1.48	0.979	Critical Pressure	669 P.S.I.A.	P.S.I.A.
5.					Critical Temperature	395 R.	R

No.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1.	117.6		117.6	58.8
2.	75.1		75.1	101.3
3.	37.2		37.2	139.2
4.	8.8		8.8	167.6
5.				

(1) $P_{c2} = 1.268$

$\frac{P_c^2 - P_w^2}{P_{c2} - P_w^2}$

AOF = Q

$\left[\frac{P_c^2}{P_{c2} - P_w^2} \right]^n = 299$

(2) $\left[\frac{P_c^2}{P_{c2} - P_w^2} \right]^n = 1.140$

Absolute Open Flow	299	Mcf/d @ 15.025	Angle of Slope θ: 61.1	Slope, n: 0.552
Remarks:				
Approved By Division	Conducted By:	Calculated By:	Checked By:	
	ARC Pressure Data, Inc.	Jose Almengor (j.almengor@arcpressura.com)		