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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 WILLOW CREEK RESOURCES						Lease or Unit Name MUADE RICKMAN					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 11-3-1995		Well No. #1			
Completion Date 11-1-1995			Total Depth		Plug Back TD		Elevation		Unit Ltr. - Sec. - TWP - Rge. 3 22S 27E		
Csg. Size 7	Wt. 26	d	Set At 10032	Perforations: From: 9798 To: RECEIVED				County			
Tbg. Size 2 3/8	Wt. 4.7	d	Set At 9709	Perforations: From: To:				Pool			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE						Packer Set At 9709		Formation WOLFCAMP			
Producing Thru TUBING		Reservoir Temp. °F 155		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2		Connection AIR			
L	H	Gg .704	% CO ₂ 2.537	% N ₂ .755	% H ₂ S	Prover OIL CON DIV. DIST. 2		Meter Run 2		Taps 18	

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						3500				72
1.	2 x 1		500	8		2500				1
2.	2 x 1		480	13		2120				1
3.	2 x 1		500	28		1950				1
4.	2 x 1		500	36		1530				1
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, Fpv.	Rate of Flow Q, Mcfd
1.	7 42	64.05	513.2	1.0284	1.1918	1.118	651
2.	7 42	80.07	493.2	1.0284	1.1918	1.097	799
3.	7 42	119.88	513.2	1.0284	1.1918	1.078	1175
4.	7 42	135.92	513.2	1.0284	1.1918	1.0541	1303
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.					A.P. I. Gravity of Liquid Hydrocarbons	Deg.
2.					Specific Gravity Separator Gas	XXXXXXXXXX
3.					Specific Gravity Flowing Fluid	XXXXXX
4.					Critical Pressure	P.S.I.A.
5.					Critical Temperature	R

P _c 4890		P _c ² 23912	
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NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1.		3366	11329	12582
2.		2873	8254	15658
3.		2656	7054	16858
4.		2089	4364	19549
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.2232$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1766$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.355$

Absolute Open Flow 1766 Mcfd @ 15.025	Angle of Slope Θ 33.5	Slope, n 1.51
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Remarks:

Approved By Division	Conducted By: KELTIC SERVICES	Calculated By: MIKE KELLY ENG	Checked By:
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