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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 <u>Read and Stevens, Inc.</u>						Lease or Unit Name <u>Harris Federal</u>					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date <u>4-14-1997</u>			Well No. <u>11</u>		
Completion Date <u>4-19-97</u>			Total Depth <u>9050</u>			Plug Back TD			Elevation		
Csg. Size <u>5 1/2</u>			Wt. <u>17.0</u>			d <u>4.892</u>			Set At		
Perforations:						From: <u>8654</u> To: <u>8678</u>					
Tbg Size <u>2 3/8</u>			Wt. <u>4.7</u>			d <u>1.995</u>			Set At <u>8546</u>		
Perforations:						From: To:					
Type Well - Single - Bradenhead - G.O. or G.O. Multiple <u>Single</u>						Packer Set At <u>8546</u>					
Producing Tubing			Reservoir Temp. °F <u>148</u>			Mean Annual Temp. °F <u>60</u>			Baro. Press - P _a <u>13.2</u>		
Connection			Pool <u>Buffalo Valley Penn</u>								
L <u>8546</u>			H <u>8546</u>			Gg <u>.650</u>			% CO ₂ <u>1.53</u>		
% N ₂ <u>.37</u>			% H ₂ S <u>0</u>			Prover			Meter Run <u>3.068</u>		
Taps <u>Flange</u>											

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							897	74	Packer		24
1.	3.068	X	1.500	29	25	82	880	74			1
2.	3.068	X	2.000	31	27	79	833	74			1
3.	3.068	X	2.000	60	61	77	681	74			1
4.	3.068	X	2.250	71	40	68	517	74			1
5.											

RATE OF FLOW CALCULATIONS

NO.	COEFFICIENT (24 HOUR)	$h_w P_m$	Pressure P _m	Flow Temp. Factor FL	Gravity Factor Fg	Super Compress. Factor, F _{sp}	Rate of Flow Q, Mcfd
1.	11.13	32.40	42	.9795	1.2403	1.0020	439
2.	21.32	34.47	44	.9822	1.2403	1.0020	897
3.	21.32	66.73	73	.9840	1.2403	1.0050	1745
4.	28.78	57.97	84	.9924	1.2403	1.0076	2069
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	N.A.	Mcft/bbl.
1.	.06	542	1.46	.996	A.P. I. Gravity of Liquid Hydrocarbons	N.A.	Deg.
2.	.06	539	1.45	.996	Specific Gravity Separator Gas	.650	XXXXXXXXXX
3.	.11	537	1.44	.990	Specific Gravity Flowing Fluid	XXXXXX	.650
4.	.12	528	1.42	.985	Critical Pressure	678 P.S.I.A.	678 P.S.I.A.
5.					Critical Temperature	372 R	372 R

P _c <u>910.2</u>	P _c <u>828.5</u>						
NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.6805$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.9185$	
1.		957.3	916.4				
2.		933.1	870.7				
3.		847.1	717.6	110.9			
4.		776.8	603.4	225.1			
5.							

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3960$$

Absolute Open Flow 3960 Mcfd @ 15.025 Angle of Slope 63.5 Slope, n .5

Remarks:

Approved By Division _____ Conducted By: Tom Duncan Calculated By: Dan Fleeman Checked By: _____