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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

CONFIDENTIAL

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Harvey E. Yates Company						Lease or Unit Name Palm 1 to 6 State Com					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 12/12/97			Well No. 1		
Completion Date 12/3/97		Total Depth 11,590		Plug Back TD 11,542		Elevation 3388'			Unit Ltr. - Sec. - TWP - Rgc. K 6 19s 29e		
Csg. Size 5 1/2	Wt. 17#	d 4.892	Set At 11,590	Perforations: From: 11,132 To: 11,152			County Eddy				
Tbg. Size 2 3/8	Wt. 4.7#	d 1.995	Set At 11,043	Perforations: From: OPEN To: ENDED			Pool North Turkey Track				
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 11,043			Formation Morrow				
Producing Thru Tbg		Reservoir Temp. °F 177 @ 11000		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2			Connection LGE		
L 11000	H 11000	Gg 0.634	% CO ₂ 0.70	% N ₂ 0.44	% H ₂ S	Prover		Meter Run 3.068		Taps FLG	

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						3315		PACKER		24 Hrs.
1.	3.068 x 2.250		219	19.2	59.6	2955				1 Hr.
2.	3.068 x 2.250		248.6	47	60.5	2640				1 Hr.
3.	3.068 x 2.250		257.7	64.2	64.8	2500				1 Hr.
4.	3.068 x 2.250		270.4	87.3	62.6	2290				1 Hr.
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, F _{pv} .	Rate of Flow Q, Mcfd
1.	28.78	66.77	232.2	1.0000	1.256	1.022	2467
2.	28.78	111.01	262.2	.9990	1.256	1.026	4113
3.	28.78	131.95	271.2	.9952	1.256	1.027	4875
4.	28.78	157.24	283.2	.9972	1.256	1.028	5827
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 137.069 Mcf/bbl.
1.	.34	520	1.41	.957	A.P. L Gravity of Liquid Hydrocarbons 50.6 @ 60° Deg.
2.	.39	521	1.41	.950	Specific Gravity Separator Gas 0.634 XXXXXXXXXX
3.	.40	525	1.42	.949	Specific Gravity Flowing Fluid XXXXXX
4.	.42	523	1.42	.947	Critical Pressure 670 P.S.I.A. 670 P.S.I.A.
5.					Critical Temperature 368 R 368 R

P _c 3399.7 P _c ² 11558.0				$1) \frac{P_c^2}{P_c^2 - P_w^2} = 2.358$ $(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.358$	
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 13,740$
1.		3055.6	9336.7	2221.3	
2.		2813.6	7916.3	3641.7	
3.		2713.5	7363.1	4194.9	
4.		2580.2	6657.4	4900.6	
5.					

Absolute Open Flow 13,740 Mcfd @ 15.025	Angle of Slope Θ 45.00	Slope, n 1.000
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Remarks: **Well made 6 Bbls condensate during test**

* **BHP instrument set at this depth**

Approved By Division	Conducted By: Jarrel Services, Inc.	Calculated By: Bob Murray	Checked By: Bob Murray
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