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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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Harvey E. Yates Company				Lease or Unit Name Power Deep 31 Federal Com			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 7/25/01		Well No. 1	
Completion Date 7/10/01		Total Depth 11832		Plug Back TD 11767		Elevation 3663' GL	
Csg. Size 4 1/2		Wt. 11.6#		d 4.000		Set At 11832	
Tbg. Size 2 3/8		Wt. 4.7#		d 1.995		Set At 11604	
Perforations: From: 11686 To: 11703				County Eddy			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 11604			
Producing Thru Tbg		Reservoir Temp. °F 60		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
Formation Morrow		Connection Duke Energy		Meter Run 4.026		Taps FLG	
L 11604	H 11604	G _g 0.675	% CO ₂ 0.367	% N ₂ 0.821	% H ₂ S -	Prover -	

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							3504		PACKER		15 Days
1.	4.026 x 1.625			733	1.6	86	3410				1.0 Hr
2.	4.026 x 1.625			729	5.5	87	3334				1.0 Hr
3.	4.026 x 1.625			731	12.0	88	3267				1.0 Hr
4.	4.026 x 1.625			735	21.0	85	3205				1.0 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 _{sp}	Rate of Flow Q, Mcfd
1.							557
2.							1054
3.							1530
4.							2037
5.							

GAS MEASURED BY TOTAL FLOW METER

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P. I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature	Met/bbl.	Deg
1.					43.15	53 @ 60	0.675	XXXXXXX	667	405		
2.								XXXXXX				
3.												
4.												
5.												

P_c	3517.2	P_w^2	12370.7	
NO.	P_i^2	P_w	P_w^2	$P_i^2 - P_w^2$
1.		3425.0	11730.5	640.2
2.		3353.7	11247.1	1123.6
3.		3293.9	10850.1	1520.6
4.		3242.8	10515.5	1855.2
5.				

$$1) \frac{P_c^2}{P_i^2 - P_w^2} = \frac{6.668}{}$$

$$(2) \left[\frac{P_c^2}{P_i^2 - P_w^2} \right]^2 = \frac{6.668}{}$$

$$AOF = Q \left[\frac{P_c^2}{P_i^2 - P_w^2} \right]^2 = \frac{13.583}{}$$

$$1) \frac{P_c^2}{P_i^2 - P_w^2} = 6.668 \quad (2) \left[\frac{P_c^2}{P_i^2 - P_w^2} \right]^n = 6.668$$

$$AOF = Q \left[\frac{P_c^2}{P_i^2 - P_w^2} \right]^n = 13.583$$

Absolute Open Flow	13,583	Mcf/d @ 15.025	Angle of Slope θ	45	Slope, n	1.000
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Remarks: Well produced 5 BBLs condensate during test

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