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See Rule 401 & Rule 1122

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

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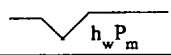
Form C-122
Revised 4-1-91

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MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Read & Stevens, Inc.						Lease or Unit Name Otis 34					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 11/20/91		Well No. 1			
Completion Date 6/21/91		Total Depth 12,764		Plug Back TD 12,640		Elevation 3083' GL		Unit Ltr. - Sec. - TWP - Rge. F 34 22s 27e			
Csg. Size 5"	Wt. 18#	d 4.276	Set At 9265 - 12,764	Perforations: From: 11,738 To: 11,818				County Eddy			
Tbg. Size 2 3/8"	Wt. 4.7#	d 1.995	Set At 11,632	Perforations: From: OPEN To: ENDED				Pool <i>S. Carlabad</i> North Loving Morrow			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 11,632		Formation Morrow			
Producing Thru TBG		Reservoir Temp. °F 176		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2		Connection Llano			
L -	H -	Gg 0.592	% CO ₂ 1.07	% N ₂ 0.23	% H ₂ S -	Prover -		Meter Run 2.067		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						3737	60	PACKER		24 Hrs.
1.	2.067 x 0.875		660	2"	42	3600				1.0 Hr.
2.	2.067 x 0.875		660	4"	44	3475				1.0 Hr.
3.	2.067 x 0.875		660	8"	44	3210				1.0 Hr.
4.	2.067 x 0.875		660	16"	44	2725				1.0 Hr.
5.										

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)		Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg.	Super Compress. Factor, F _{pv} .	Rate of Flow Q, Mcfd
1.	3.729	36.69	673.2	1.018	1.300	1.065	193
2.	3.729	51.89	673.2	1.016	1.300	1.064	272
3.	3.729	73.39	673.2	1.016	1.300	1.064	385
4.	3.729	103.78	673.2	1.016	1.300	1.064	544
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Super Compress. Factor, F _{pv} .	Rate of Flow Q, Mcfd
1.	1.00	502	1.42	0.881	138	1.065	193
2.	1.00	504	1.43	0.884	52	1.064	272
3.	1.00	504	1.43	0.884	0.592	1.064	385
4.	1.00	504	1.43	0.884	676	1.064	544
5.					353		

P_c 4870.2 * P_c² 23718.8

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1.		4721.2	22289.7	1429.1
2.		4608.2	21235.5	2483.3
3.		4392.2	19291.4	4427.4
4.		3802.2	14456.7	9262.1
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 9.551$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.024$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1094.528$

Absolute Open Flow	1095	Mcfd @ 15.025	Angle of Slope θ	58° 20'	Slope, n	0.617
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Remarks: * Bottom hole pressures @ 11778' (-8695) used for pressure calculations

Well produced .42 BBL 52° condensate during test

Approved By Division	Conducted By: Jarrel Services, Inc.	Calculated By: D. Dickerson	Checked By: D. Dickerson
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