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OIL CONSERVATION DIVISION

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

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MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Mewbourne Oil Company					Lease or Unit Name Cedar Breaks State				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 6/8/93		Well No. 2		
Completion Date 4/24/93		Total Depth 11,490		Plug Back TD 11,430		Elevation 3594' GR		Unit Ltr. - Sec. - TWP - Rge. A 2 18s 30e	
Csg. Size 5 1/2	Wt. 17#	d 4.892	Set At 11,490	Perforations: From: 11,320 To: 11,342			County Eddy		
Tbg. Size 2 7/8	Wt. 6.5#	d 2.441	Set At 11,305	Perforations: From: Open To: Ended			Pool Cedar Lake Morrow		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single					Packer Set At 11,191		Formation Morrow		
Producing Thru Tubing		Reservoir Temp. °F 187		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2		Connection Transwestern	
L 11331	H 11331	Gg 0.680	% CO ₂ 0.53	% N ₂ 0.45	% H ₂ S	Prover		Meter Run 4.026	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						2550	60	PACKER		24 Hrs.
1.	4.026 x	2.000	580	2.5	75	2510				1 Hr.
2.	4.026 x	2.000	580	11	80	2490				1 Hr.
3.	4.026 x	2.000	600	42	90	2460				1 Hr.
4.	4.026 x	2.500	610	66	80	2320				1 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 _{pv}	Rate of Flow Q, Mcfd
1.	19.81	38.51	593.2	0.9859	1.213	1.063	970
2.	19.81	80.78	593.2	0.9813	1.213	1.061	2021
3.	19.81	160.48	613.2	0.9723	1.213	1.057	3963
4.	32.64	202.81	623.2	0.9813	1.213	1.061	8360
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	29.0	Mcf/bbl.
1.	0.89	535	1.39	0.885	A.P.L. Gravity of Liquid Hydrocarbons	58	Deg.
2.	0.89	540	1.40	0.888	Specific Gravity Separator Gas	0.680	XXXXXXXXXX
3.	0.92	550	1.43	0.895	Specific Gravity Flowing Fluid	XXXXXX	
4.	0.93	540	1.40	0.888	Critical Pressure	669	P.S.I.A.
5.					Critical Temperature	385	R

p_c 2730.6 * p_c^2 7456.2

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1.		2726.9	7433.8	22.4
2.		2723.2	7415.8	40.4
3.		2711.9	7354.4	101.8
4.		2681.1	7188.3	267.9
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 27.832$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 11.721$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 97.988$

Absolute Open Flow 97.988 Mcfd @ 15.025		Angle of Slope θ 53.5	Slope, n 0.740
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Remarks: Well made 22 bbls. 58" condensate during test

* Bottom hole pressures @ 11,331' used for pressure calculations

Approved By Division	Conducted By: Mewbourne Oil Company	Calculated By: Bob Murray	Checked By: Bob Murray
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