

OIL CONSERVATION DIVISION

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

Submit in duplicate to
appropriate district office
See Rule 401 & Rule 1122

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Murchison Oil & Gas, Inc.				Lease or Unit Name High Nitro State Com			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 3/26/01		Well No. 1	
Completion Date 3-5-01		Total Depth 10308		Plug Back TD 10280		Elevation 3608' GL	
Csg. Size 5 1/2		Wt. 20#		d 4.778		Set At 10308	
Tbg. Size 2 3/8		Wt. 4.7#		d 1.995		Set At 9943	
Perforations: From: 10048 To: 10158				County Eddy			
Perforations: From: Open To: Ended				Formation Morrow			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 9943		Connection Agave	
Producing Thru Tbg		Reservoir Temp. °F 60		Mean Annual Temp. °F 60		Baro. Press - P 13.2	
L 9943		H 9943		Gg 0.725		% CO ₂ 5.702	
				% N ₂ 2.309		% 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						2867		PACKER		90 Hrs
1.	2.067 x 1.000		124.5	14	62	2746				1.0 Hr
2.	2.067 x 1.000		131.0	58	71	2586				1.0 Hr
3.	2.067 x 1.000		139.0	129	69	2392				1.0 Hr
4.	2.067 x 1.000		145.0	223	66	2168				1.0 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.	4.946	43.99	138.2	.9981	1.174	1.015	288
2.	4.946	91.45	144.2	.9896	1.174	1.015	534
3.	4.946	140.12	152.2	.9915	1.174	1.015	819
4.	4.946	187.13	158.2	.9943	1.174	1.021	1107
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	.20	522	1.36	.971	45.8	1.015	288
2.	.21	531	1.38	.972	54 @ 60	1.015	534
3.	.22	529	1.38	.971	.725	1.015	819
4.	.23	526	1.37	.968	.725	1.021	1107
5.							

P _c	2880.2	P _c ²	8295.6				
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.368$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.040$	
1.		2759.7	7615.8	679.8			
2.		2600.9	6764.5	1531.1			
3.		2409.3	5804.7	2490.9			
4.		2189.2	4792.6	3503.0			
5.							

Absolute Open Flow	2258	Mcfd @ 15.025	Angle of Slope θ	50.4	Slope, n	.8268
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Remarks: Well produced 2.5 bbls condensate during test.
* = Corrected to 5.702% CO₂ and 2.309% N₂

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