

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND THE POINT BACK PRESSURE TEST FOR GAS WELL

Form O-121
 Revised 1-1-65

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 2-25-77	
Company Mark Production Company				Connection	
Pool Undersaturated				Formation Morrow	
Completion Date 2-20-77		Total Depth 12896		Plug Back TD 12842	
Elevation 3744 Gr.		Farm or Lease Name Federal "E" Com-			
Casing Size 5.50"		Well No. 1		Perforations From 12625 To 12791	
Casing Weight 23.00#		Set At 12480		Perforations From To	
Casing Depth 4.670'		Set At 12480		Unit Soc. Twp. Rge. 27 18S 32E	
Casing Size 2.375"		Casing Weight 4.70#		Casing Depth 1.995'	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single Completion Gas-Gas				Packer Set At 12480	
Producing Thru Tubing		Reservoir Temp. °F 170 @ 12708		Mean Annual Temp. °F 60	
Baro. Press. - P _g 13.2		State New Mexico			
L 12708	H 12708	G _g 0.580	% CO ₂ 0.00	% N ₂ 0.00	% H ₂ S 0.00
Prover X		Meter Run X		Taps	

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							4004	79			
1.		4.00	2.50	400	2.50"	57	3165	80			1.00 Hr.
2.		4.00	2.50	400	3.50"	53	2671	80			1.00 Hr.
3.		4.00	2.50	400	7.00"	52	2542	80			1.00 Hr.
4.		4.00	2.50	400	9.50	42	2042	80			1.00 Hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mc/d
1	21.32	32.140	413.20	1.0029	1.3131	1.0340	933
2	21.32	38.029	413.20	1.0068	1.3131	1.1390	1221
3	21.32	53.781	413.20	1.0078	1.3131	1.0390	1576
4	21.32	62.653	413.20	1.0178	1.3131	1.0420	1860
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/Std.
					21369	
					A.P.I. Gravity of Liquid Hydrocarbons	0.30
1	0.61	517	1.44	0.93	Specific Gravity Separator Gas	0.580
2	0.61	513	1.48	0.92	Specific Gravity Flowing Fluid	0.759
3	0.61	512	1.48	0.92	Critical Pressure	667
4	0.61	502	1.40	0.92	Critical Temperature	411
5						

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1	3246.7	1054	5597	
2	2741.5	7516	8622	
3	2564.1	6575	9563	
4	2050.2	4208	11935	
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.35220$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.3152$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2446$

Absolute Open Flow	2446	Mcf/d @ 15.025	Angle of Slope °	47.73	Slope, n	0.908
--------------------	------	----------------	------------------	-------	----------	-------

Remarks:

Approved By Commission: Conducted By: Calculated By: Checked By: