

N MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 4- 8-81			
Company Union Oil Co. of California				Connection					
Pool Undesignated (Gem Morrow Gas)				Formation Morrow				Unit	
Completion Date 4- 4-81		Total Depth 13,653'		Plug Back TD 13,600'		Elevation 3584' GR.		Part or Lease Name Federal "31-G"	
Csg. Size 5-1/2" OD	Wt. 17#	d 4.892"	Set At 13,653'	Perforations: From 13,373' To 13,403'		Well No. 1			
Tq. Size 2-3/8" OD	Wt. 4.7#	d 1.995"	Set At 13,305'	Perforations: From To		Unit Sec. Twp. Rge. H 31 19-S 33-E			
Type well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 13,305'		County Lea	
Producing Thru Tubing		Reservoir Temp. °F 177 @ 13,373'		Mean Annual Temp. °F 60		Zero. Press. - P _g 13.2		State New Mexico	
L 13,373'	H 13,373'	G _g .668	% CO ₂ .59	% N ₂ .48	% H ₂ S 0.0	Prover 0.0	Meter Run 3.8	Turn Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow Hrs.	
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
1.	3.83		2.000	500	4.0	80	4330	60			72.0
2.	3.83		2.000	500	12.0	72	4110	77	0	0	.7
3.	3.83		2.000	500	26.0	58	3960	78	0	0	1.7
4.	3.83		2.000	500	55.0	65	3810	89	0	0	1.7
5.							3510	82	0	0	2.0

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, Mcd
1.	19.99	45.31	513.2	.9813	1.2235	1.0485	1,140
2.	19.99	78.48	513.2	.9887	1.2235	1.0509	1,994
3.	19.99	115.51	513.2	1.0019	1.2235	1.0567	2,991
4.	19.99	168.01	513.2	.9952	1.2235	1.0535	4,307
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/Std.
1.	.76	540	1.43	0.910	23.558	
2.	.76	532	1.41	0.906	48.5	
3.	.76	518	1.37	0.896		
4.	.76	525	1.39	0.901		
5.						

A.P.I. Gravity of Liquid Hydrocarbons 48.5 Specific Gravity Separator Gas 0.668 Specific Gravity Flowing Fluid .784 Critical Pressure 671 P.S.I.A. Critical Temperature 377 R				Mcf/Std. Deg. P.S.I.A. R
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NO.	P _r ²	P _w	P _w ²	P _r ² - P _w ²
1		4106	16859	2005
2		3970	15765	3099
3		3848	14805	4059
4		3607	13009	5854
5				

(1) $\frac{P_r^2}{P_r^2 - P_w^2} = 3.2222$

AOI = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 13,879$

(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 3.2222$

Absolute Open Flow	13,879	Mcd @ 15.025	Angle of Slope α	45	Slope, n	1.000
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Remarks: Calculations completed using Garrett Computing System's AOF program.

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	C. A. Bagley	M. F. Standifer	L. H. Pardue