

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 1/3/85			
Company HNG Oil Company				Connection Transwestern			
Pool Pitchfork Ranch				Formation Morrow		Unit	
Completion Date 7/22/84		Total Depth 15159'		Plug Back TD 15085'		Elevation 3401.3' GR	
Farm or Lease Name Madera 33 Federal Com				Well No. 2			
Coq. Size 5 1/2" 3 1/2"	Wt. 20 10.3	d 4.778 2.922	Set At 14677' 15159'	Perforations: From 14938' To 15030'			
Trq. Size 2 7/8"	Wt. 7.9	d 2.323	Set At 14141'	Perforations: Open Ended From To		Unit Sec. Twp. Rge. J 33 24s 34e	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 14141'		County Lea	
Producing Thru Tbg		Reservoir Temp. °F 217 14984'		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L 14984'		H -		C _q 0.577		% CO ₂ 0.695	
				% N ₂ 0.185		% H ₂ S -	
				Prover -		Meter Run 2.900	
						Taps Flg	

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							5780		PACKER		24.0 hrs
1.	2.900 **		1.250	860	5"	93	5444	63			1.0 hr
2.	2.900		1.250	860	12"	93	5235	63			0.75 hr
3.	2.900		1.250	870	24"	93	4970	63			1.0 hr
4.	2.900		1.250	870	50"	93	4530	62			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 F _g	Super Compress. Factor, F _{ov}	Rate of Flow Q, Mscf/d
1	7.615	66.08	873.2	0.9697	1.316	1.050	674.25
2	7.615	102.36	873.2	0.9697	1.316	1.050	1044.44
3	7.615	145.59	883.2	0.9697	1.316	1.051	1486.95
4	7.615	210.14	883.2	0.9697	1.316	1.051	2146.22
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NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry Gas	Mcf/bbl.
1	1.29	553	1.62	0.907	A.P.I. Gravity of Liquid Hydrocarbons	-	Deg.
2	1.29	553	1.62	0.907	Specific Gravity Separator Gas	0.5766	X X X X X X X X
3	1.31	553	1.62	0.905	Specific Gravity Flowing Fluid	X X X X X	
4	1.31	553	1.62	0.905	Critical Pressure	675	P.S.I.A. P.S.I.A.
5					Critical Temperature	342	R R

NO.	P _r ²	P _w	P _r ²	P _r ² - P _w ²	(1) $\frac{P_c^2}{P_r^2 - P_w^2} =$	(2) $\left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n =$
1	7154.2	51182.6	4830.6		3.133	2.757
2	6932.2	48055.4	7957.8			
3	6638.2	44065.7	11947.5			
4	6175.2	38133.1	17880.1			
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Absolute Open Flow		5917	Mcf/d @ 15.025	Angle of Slope	48° 24'	Slope, n	0.888
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Remarks: * BOTTOM HOLE PRESSURE @ (-11565) 14984' USED FOR PRESSURE CALCULATIONS
** DIAPHRAGM ACTUATED CHOKE

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