

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 1/5/85	
Company HNG Oil Company		Connection Transwestern	
Pool West Pitchfork Ranch		Formation Atoka	
Completion Date 7/2/84		Total Depth 15750'	
Plug Back TD 14908'		Elevation 3556' GL	
Farm or Lease Name Madera Ridge 25 Fed Con		Well No. 1	
Cas. Size 3 1/2"	Wt. 10.3	d 2.922	Set At 14973
5 1/2"	20	d 4.778	15000
Perforations: From 14664' To 14682'			
Perforations: Open Ended			
Perforations: From To			
Trg. Size 2 7/8"	Wt. 6.5	d 2.441	Set At 13827
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single		Packer Set At 13827'	
Producing Thru Tbg		Reservoir Temp. °F 214 @ 14674'	
Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L 14674'	H -	C _g 0.593	% CO ₂ 0.468
% N ₂ 1.028	% H ₂ S -	Prover -	Meter Run 4.026
Taps		Flg.	

FLOW DATA									
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	TUBING DATA		CASING DATA
							Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.
									Temp. °F
1.	4.026	10/64	2.000	900	6"	87	5991		PACKER
2.	4.026	12/64	2.000	900	14"	91	5710	62	
3.	4.026	15/64	2.000	900	30"	93	5520	62	
4.	4.026	19/64	2.000	900	52"	90	5149	62	
5.							4690	63	
									24.0 hr
									0.75 hr
									1.00 hr
									0.75 hr
									1.00 hr

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, Mscf/d
1	19.81	74.02	913.2	0.9750	1.299	1.059	1966.72
2	19.81	113.07	913.2	0.9715	1.299	1.058	2990.68
3	19.81	165.52	913.2	0.9697	1.299	1.058	4369.86
4	19.81	217.91	913.2	0.9723	1.299	1.058	5768.42
5							

NO.	R	Temp. °R	T _r	Z	Gas/Liquid Hydrocarbon Ratio	Mcf/ubbl.
1	1.36	547	1.58	0.892	140.75	
2	1.36	551	1.59	0.894	48.2 @ 60	
3	1.36	553	1.59	0.894	0.5932	X X X X X X X X
4	1.36	550	1.59	0.894	X X X X X	
5					673	P.S.I.A. - P.S.I.A.
					347	R - R

P _c 7719.2 P _c ² 59586.0	
NO.	P _c ²
1	7460.2
2	7244.2
3	6866.2
4	6397.2
5	

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.193$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.197$	
AOF = 0 $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 12673.219$			

Absolute Open Flow 12673	Mscf @ 15.025	Angle of Slope @ 55° 52'	Slope, n 0.678
Remarks: * BOTTOM HOLE PRESSURE @ (-11118) 14674' USED FOR PRESSURE CALCULATIONS			
WELL PRODUCED 4.0 B/C IN 3.5 HRS = 27.4 BC/D			
Approved By Division	Conducted By: Jarrel Services, Inc.	Calculated By: D. Dickerson	Checked By: D. Dickerson

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JAN 14 1985

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