

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 2/16/83			
Company HNG Oil Company				Connection Warren Petroleum Company					
Pool N. Eidson				Formation Morrow				Unit	
Completion Date 8-28-82		Total Depth 13320'		Plug Back TD 13264'		Elevation 4078'GL		Farm or Lease Name Lovington Plains 1 State Com	
Coq. Size 4 1/2" Liner	Wt. 13.5	d 3.920	Set At 13320	Perforations: From 13056' To 13251'				Well No. 1	
Trq. Size 2 3/8"	Wt. 4.7	d 1.995	Set At 11721	Perforations: Open Ended From To				Unit Sec. Twp. Rye. F 1 16s 34e	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single						Packer Set At 11690'		County Lea	
Producing Thru Tbg		Reservoir Temp. °F -		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2		State New Mexico	
L 13154	H -	G _g 0.6594	% CO ₂ 0.675	% N ₂ 0.873	% H ₂ S -	Prover -	Meter Run 3.068	Taps F	

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. DWT	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							4770	61	PACKER		72.0 hrs
1.	3.068**	1.000	210	6	88	4528	62				2.0 hrs
2.	3.068	1.000	210	12	86	4458	60				2.0 hrs
3.	3.068	1.000	210	25	86	4357	60				2.0 hrs
4.	3.068	1.000	210	80	92	3550	60				5.25 hrs
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, Mcfd
1	4.789	36.60	223.2	0.9741	1.232	1.019	214.35
2	4.789	51.75	223.2	0.9759	1.232	1.019	303.63
3	4.789	74.70	223.2	0.9759	1.232	1.019	438.28
4	4.789	133.63	223.2	0.9706	1.232	1.018	779.02
5							

NO.	R _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 25.414 Mcf/bbl.
1	0.33	548	1.48	0.964	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2	0.33	546	1.47	0.963	Specific Gravity Separator Gas 0.6594 X X X X X X X X
3	0.33	546	1.47	0.963	Specific Gravity Flowing Fluid X X X X X
4	0.33	552	1.49	0.965	Critical Pressure 673 P.S.I.A. _____ P.S.I.A.
5					Critical Temperature 371 R _____ R

P _c 6626.2 P _c ² 43906.5						
NO.	P _t ²	P _w *	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 11.56$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.57$
1		6405.2	41026.6	2879.9	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1387.6$	
2		6333.2	40109.4	3797.1		
3		6073.2	36883.8	7022.7		
4		5184.2	26875.9	17030.6		
5						

Absolute Open Flow 1388 Mcfd @ 15.025		Angle of Slope @ 58° 8'		Slope, n 0.621	
Remarks: * BOTTOM HOLE PRESSURE @ (-9076) 13154' USED FOR PRESSURE CALCULATIONS					
** DIAPHRAM ACTUATED CHOKE					
WELL PRODUCED 8.0BC in 11.25 hrs = 17.07 BC/D					
Approved By Division		Conducted By: JARREL WELL TESTING, INC		Calculated By: Joe A. Coleman	
				Checked By: PE #2208 Joe A. Coleman	