

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL-DEVELOPMENT

Form No. 1-1
Revised 9-1-66

DECEMBER 1977

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 11-21-77	
Company HNG H. N. G. Oil Co.				Connection None	
Well White City Penn				Formation Morrow	
Completion Date 11-21-77		Total Depth 11,600		Plug Back TD 11,500	
				Elevation 3397.2	
Farm or Lease Name Grynberg Federal Com					
Casing Size 8-5/8		Casing Weight 35#		Well No. 1	
Perforations From 11,097 To 11,165		Set At 1971			
Perforations From 11,156 To 11,162		Set At 9001			
Perforations From 11,358 To 11,374		Set At 9001			
Perforations From 11,425 To 11,434		Set At 9001			
Type Well - Single - Bracedwell - G.G. or G.O. Multiple Single				Packer Set At 8978	
County Eddy					
Pressure Transducer Tubing		Reservoir Temp. °F 201 ± 11,266		Mean Annual Temp. °F 68	
				Baro. Press. - P _a 13.2	
State New Mexico					
L 9060		H 9060		Gg .63	
				% CO ₂ None	
				% N ₂ None	
				% H ₂ S None	
Prover x		Meter Run x		Taps Flange	

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover	X	Casing 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.	3.068	1.00	693.2	2.0	76	3380.2	70	Packer			60 Min.
2.	3.068	1.00	693.2	4.6	76	2990.2	71				60 Min.
3.	3.068	1.00	698.2	7.2	78	2643.2	72				60 Min.
4.	3.068	1.00	733.2	13.0	74	2225.2	73				60 Min.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor F _{pv}	Rate of Flow Q, Mscf/d
1.	4.789	37.23	693.2	.9850	1.260	1.062	235
2.	4.789	36.47	693.2	.9850	1.260	1.062	356
3.	4.789	70.90	698.2	.9831	1.260	1.062	447
4.	4.789	108.31	733.2	.9863	1.260	1.064	686
5.							

NO.	P _r	Temp. °R T _r	Z	Gas Liquid Hydrocarbon Ratio Mscf/bbl.	A.P.L. Gravity of Liquid Hydrocarbons Deg.	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure P.S.I.A.	Critical Temperature °R
1.	1.03	536	1.45	.887					
2.	1.03	536	1.45	.887					
3.	1.04	538	1.46	.856					
4.	1.06	534	1.45	.884					
5.									

NO.	P _r	P _w	P _r ²	P _w ²	P _r ² - P _w ²
1.		4401.2	19370	4770	
2.		4040.2	16323	7817	
3.		3824.2	14625	9515	
4.		3041.2	9249	14891	
5.					

(1) $\frac{P_r^2}{P_r^2 - P_w^2} = 1.621$

(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.5708$

AOF = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1077$

Gas Liquid Hydrocarbon Ratio _____ Mscf/bbl.

A.P.L. Gravity of Liquid Hydrocarbons _____ Deg.

Specific Gravity Separator Gas _____

Specific Gravity Flowing Fluid _____

Critical Pressure _____ P.S.I.A.

Critical Temperature _____ °R

Absolute Open Flow 1077		Mscf @ 15.025		Angle of Slope θ 47°		Slope, n .934	
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Remarks: PW Substituted for PT - Measured with Amerada Instrument No. 35745 -

6-00000 Elements

Approved by Commission	Conducted By: Morgan	Calculated By: Spruell	Checked By: Morgan
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