

DELIVERABILITY TEST REPORT

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 04-23-97				
Company Read & Stevens, Inc.				Connection GPM Gas Corporation						
Pool Buffalo Valley				Formation Morrow				Unit		
Completion 04-19-97		Total Depth 9050'		Plug Back TD 8998'		Elevation 3492' GR		Farm or Lease Name Harris Federal		
Csg. Size 5 1/2"	Wt. 17#	d 4.892	Set At 9040'	Perforations: From 8654 To 8678'		Well No. 11				
Tbg. Size 2 3/8"	Wt. 4.6#	d 1.995	Set At 8546'	Perforations: From To		Unit Sec. Twp. Rge. N 26 15S 27E				
Type Well - Single - Brodenhead - G.G. or G.O. Multiple Single						Packer Set At 8546'		County Chaves		
Producing Thru Tubing		Reservoir Temp. °F 157 @ 8660'		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State New Mexico		
L 8666	H 8666	Gg. 0.634	% CO ₂ 0.3	% N ₂ 1.20	% H ₂ S	Prover	Meter Run	Taps		
FLOW DATA					TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X Choke Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI	Total Flow Meter				70	832				96 hrs
1.					64	500				24 hrs
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, Mcfd	
1.						0.9962	1.256	1.003	1,783	
NO.	P _r	Temp. R.	T _r	Z	Gas Liquid Hydrocarbon Ratio <u>Dry Gas</u> Mcf/bbl.					
	0.997	518	1.427	0.8827	A.P.I. Gravity of Liquid Hydrocarbons <u>Dry</u> Deg.					
					Specific Gravity Separator Gas <u>0.634</u> XXXXXXXXXXXX					
					Specific Gravity Flowing Fluid <u>XXXXX</u>					
P _d	175				Critical Pressure <u>669</u> p.s.i.a. p.s.i.a.					
P _d ²	30.63				Critical Temperature <u>366</u> °R °R					
P _c	832				P _f P _f ²					
P _c ²	692.2									
NO.	P _t	P _t ²	P _c ² - P _t ²	P _w	P _w ²	P _c ² - P _w ²	P _s	P _s ²	P _t ² - P _s ²	
	500	250.0	442.2	576.8	332.7	359.5	516.0	266.3		

$$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right] = \left[\frac{692.2 - 30.6}{692.2 - 332.7} \right] = \underline{1.840}$$

$$\text{Log} \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right] = \underline{0.2648}$$

$$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n = \underline{1.356}$$

$$n \text{ Log} \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right] = \underline{0.1324}$$

$$\text{Deliv.} = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n$$

Deliv. 2418 Mcfd

n 0.50

Multi Point Back Pressure Test
(Source of n)

Division _____

Company _____

Others _____

Read & Stevens, Inc. *JM*