

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

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Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 1-10-90			
Company Marshall Pipe & Supply				Connection Vented					
Fluid Tule				Formation Penn.				Unit	
Completion Date 1-9-90		Total Depth 7170		Plug Back TD none		Elevation		Farm or Lease Name Morrison	
Well Size 5-1/2"	Wt. 17 #	d 4.892"	Set At 7166	Perforations: From 6986 To 6990		Well No. 1			
Tbg. Size 2 3/8	Wt. 4.7	d 1.995	Set At 6938	Perforations: From open To end		Unit Sec. Twp. Rge. A 22 2S 29E			
Type Well - Single - Brdenhead - G.C. or G.O. Multiple Single						Packer Set At 6938		County Roosevelt	
Producing Thru Tbg.		Reservoir Temp. °F 123 # 6986		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State NM	
L 6986	H 6986	G _g .674	% CO ₂ .25	% N ₂ 6.43	% H ₂ S --	Prover (Oct. positive cks.)		Meter Run	Taps

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							1342		Pkr.		24 hrs.
1.	Positive ck. 1/8			1182		40	1182		Pkr.		1 hr.
2.	Positive ck. 5/32			1125		44	1125		Pkr.		45 min.
3.	Positive ck. 3/16			982		47	982		Pkr.		1 hr.
4.	Positive ck. 1/4			537		57	537		Pkr.		1 hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super. Compress. Factor, F _{pv}	Rate of Flow O, Mcfd
1	.2618		1195.2	1.020	1.218	1.152	448
2	.4173		1138.2	1.016	1.218	1.143	672
3	.6101		995.2	1.013	1.218	1.125	843
4	1.112		550.2	1.003	1.218	1.057	790
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry Gas	Mcf/bbl.
1.	1.81	500	1.36	.754	A.P.I. Gravity of Liquid Hydrocarbons	Dry	Deq.
2.	1.72	504	1.38	.765	Specific Gravity Separator Gas	.674	XXXXXXXXXX
3.	1.51	507	1.38	.790	Specific Gravity Flowing Fluid	XXXXXX	
4.	.83	517	1.41	.895	Critical Pressure	* 658	P.S.I.A. P.S.I.A.
5.					Critical Temperature	* 365	R R

P _c 1355.2	P _w 1836.6		
NO.	P _r	P _w	P _r ² - P _w ²
1		1197.1	1433.0
2		1142.7	1305.7
3		1003.4	1006.8
4		564.3	318.4
5			

(1) $\frac{P_c^2}{P_r^2 - P_w^2} = 2.213$

AOF = 0 $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.684$

(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.998$

Absolute Open Flow	1.684	Mcf @ 15.025	Angle of Slope	49	Slope, n	.871
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Remarks: * = corrected to 6.43% N₂

Approved By Division	Conducted By: John West Engineering	Calculated By: JBM	Checked By: JBM
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