

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

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	
Tool Size 4 1/2	Wt. 11.6#	Set At 4.000"	Set At 7166	Perforations: From 6986 To 6990			Well No. 1		
Thg. Size 2 3/8	Wt. 4.7	Set At 1.995	Set At 6938	Perforations: From open To end			Unit A	Sec. Twp. Rge. 22 2S 29E	
Type Well - Single - Bradenhead - 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 _g 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.)			

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 F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, 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.	R	Temp. °R	T _g	Z	Gas Liquid Hydrocarbon Ratio <u>Dry Gas</u> Mcf/bbl.
1.	1.81	500	1.36	.754	A.P.I. Gravity of Liquid Hydrocarbons <u>Dry</u> Deg.
2.	1.72	504	1.38	.765	Specific Gravity Separator Gas <u>.674</u> X X X X X X X X
3.	1.51	507	1.38	.790	Specific Gravity Flowing Fluid <u>X X X X X</u>
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 _c ² 1836.6				
NO.	P _c ²	P _w	P _w ²	P _c ² - P _w ²
1		1197.1	1433.0	403.6
2		1142.7	1305.7	530.9
3		1003.4	1006.8	829.8
4		564.3	318.4	1518.2
5				

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

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

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

Absolute Open Flow <u>1,684</u> Mcfd @ 15.025	Angle of Slope <u>49</u>	Slope, n <u>.871</u>
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Remarks: * = corrected to 6.43% N₂

Approved By Division DISTRICT 1 SUPERVISOR	Conducted By: John West Engineering	Calculated By: JBM	Checked By: JBM
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