

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 11-20-91			
Company COLLINS AND WARE				Connection Gas Company of New Mexico					
Pool UNDEG.				Formation Morrow				Unit B-13-20-33	
Completion Date 11-8-91		Total Depth 13,675		Plug Back TO 13,445		Elevation 3604.6 GL		Farm or Lease Name Six Shooter Fed. (13)	
Csg. Size 5½	Wt. d	Set At 13674	Perforations: From 13244 To 13301		Well No. 1				
Thq. Size 2 7/8	Wt. 6.5	d 2.441	Set At 13282	Perforations: From To		Unit B	Sec. 13	Twp. 20	Rge. 33
Type Well - Single - Gradenead - G.C. or G.C. Multiple SINGLE						Packer Set At 13236		County Lea	
Producing Thru Tbg		Reservoir Temp. °F 207 @ 13282		Mean Annual Temp. °F 60		Baro. Press. - P _g 13.2		State New Mexico	
L 13282	H 13282	G _g .677	% CO ₂ .59	% N ₂ .53	% H ₂ S	Prover	Meter Run 4.026	Taps FLG	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	x	Orifice Size	Press. p.s.i.g.	Diff. h _g	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							4216		PKR		24 Hrs
1.	4 x .750			505	1.21	61	3900		"		1 Hr
2.	4 x .750			505	4.00	67	3650		"		1 Hr
3.	4 x .750			505	11.90	71	3324		"		1 Hr
4.	4 x 1.250			520	4.00	71	2855		"		1 Hr
5.	4 x 1.250			520	8.70	71	2260		"		1 Hr

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_g P_m}$	Pressure P _g	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{sp}	Rate of Flow Q, Mscf
1	2.661	25.04	518.2	.9990	1.215	1.062	86
2.	2.661	45.53	518.2	.9913	1.215	1.062	155
3.	2.661	78.53	518.2	.9896	1.215	1.062	267
4.	7.469	46.18	533.2	.9896	1.215	1.064	441
5.	7.469	68.11	533.2	.9896	1.215	1.064	651

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	DRY GAS	Mcf/bbl.
1.	.77	521	1.36	.887	A.P.L. Gravity of Liquid Hydrocarbons	DRY	Deq.
2.	.77	527	1.37	.887	Specific Gravity Separator Gas	.677	XXXXXXX
3.	.77	531	1.39	.887	Specific Gravity Flowing Fluid	XXXXX	
4.	.79	531	1.39	.884	Critical Pressure	669	P.S.I.A.
5.	.79	531	1.39	.884	Critical Temperature	382	R

P _c 4229.2 P _c ² 17886.1			
NO.	P _r ²	P _w	P _r ² - P _w ²
1	3914.0	15319.4	2566.7
2	3664.0	13424.9	4461.2
3	3338.3	11144.3	6741.8
4	2869.7	8235.2	9650.9
5	2275.4	5177.4	12708.7

(1) $\frac{P_c^2}{P_r^2 - P_w^2} = 1.407$ (2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.407$

AOF = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = .916$

Absolute Open Flow	916	Mcf @ 15.025	Angle of Slope θ	45	Slope, n	1.000
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Remarks: NO FLUID PRODUCED DURING TEST

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