

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR

GAS OFFICE

Type Test		☒ Initial		☐ Annual		☐ Special		Test Date		08-26-91	
Company						Connection					
Hallwood Petroleum, Inc.											
Pool						Formation					
Catclaw Draw Morrow						Morrow					
Completion Date			Total Depth			Plug Back TD			Elevation		
08-23-91			10575			10210			Catclaw Draw		
Csg. Size		Wt.		Set At		Perforations		Well No.			
5 1/2		17		10575		From 10142 To 10156		16			
Thq. Size		Wt.		Set At		Perforations		Unit		Sec.	
2 3/8"		4.7		10065		From To		E		13	
								Twp.		21-S	
								Rye		25-E	
Type Well - Single - Broadhead - G.C. or G.O. Multiple						Packer Set At			County		
Single						10065			Eddy		
Producing Thru			Reservoir Temp. °F			Mean Annual Temp. °F			Base. Press. - P _g		
Tubing			180 # 10575			60			13.2		
L		H		Cg		% CO ₂		% N ₂		% H ₂ S	
*10149		*10149		.585		.81		.25		Prover	
										Meter Run	
										3.068	
										Taps	
										Flange	
FLOW DATA						TUBING DATA			CASING DATA		
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	Duration of Flow
SI							3170		PKR		48 hrs.
1.	3	X	1.250	630	9.00	78	3010		PKR		1 hr.
2.	3	X	1.750	615	14.00	78	2858		PKR		1 hr.
3.	3	X	1.750	600	28.00	78	2705		PKR		1 hr.
4.	3	X	1.750	615	54.00	78	2530		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 _{sp}	Rate of Flow Q, Mc/d				
1	7.577	76.08	643.2	.9831	1.307	1.051	778				
2.	15.61	93.78	628.2	.9831	1.307	1.049	1,973				
3.	15.61	131.03	613.2	.9831	1.307	1.048	2,754				
4.	15.61	184.18	628.2	.9831	1.307	1.049	3,875				
5.											
NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio DRY GAS Mcf/bbl.						
1.	.95	538	1.53	.906	A.P.I. Gravity of Liquid Hydrocarbons DRY Deg.						
2.	.93	538	1.53	.908	Specific Gravity Separator Gas .585 X X X X X X X X						
3.	.91	538	1.53	.910	Specific Gravity Flowing Fluid X X X X X						
4.	.93	538	1.53	.908	Critical Pressure 672 P.S.I.A. P.S.I.A.						
5.					Critical Temperature 350 R R						
P _c *3189.0 P _c ² 10169.7											
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.266$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.562$						
1	3129.4	9793.1	376.6								
2	2974.7	8848.8	1320.9								
3	2833.8	8030.4	2139.3								
4	2656.3	7055.9	3113.8								
5											
Absolute Open Flow 9,928 Mc/d @ 15.025					Angle of Slope @ 51.5			Slope, n .795			
Remarks: Cal. from known BHP's											
NO FLUID PRODUCED DURING TEST											
* BHP SET @ THIS DEPTH											
Approved By Division				Conducted By				Calculated By:			
				Pro Well Testers				BM			
								Checked By:			
								BM			