

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date Oct. 28, 1981																																																																																										
Company Lugan Production Corp.		Connection																																																																																										
Pool South Blanco Ext.		Formation Pictured Cliffs																																																																																										
Completion Date Oct. 21, 1981	Total Depth 3160'	Plug Back TD 3102'	Elevation 7207'																																																																																									
Csg. Size 4 1/2"	Wt. 105#	Set At 4.052	Perforations From 3035' To 3087'																																																																																									
Csg. Size 1 1/4"	Wt. 2.4#	Set At 1.380	Perforations From — To —																																																																																									
Type Well — Single — Bordenhead — C.G. or G.O. Multiple Single		Packer Set At —																																																																																										
Producing Thru tbg.	Reservoir Temp. °F	Mean Annual Temp. °F	Baro. Press. — P _a																																																																																									
Loc.	Co. 62	% CO ₂	% N ₂																																																																																									
		% H ₂ S	Prover																																																																																									
			Meter Run																																																																																									
			Temp																																																																																									
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="6">FLOW DATA</th> <th colspan="2">TUBING DATA</th> <th colspan="2">CASING DATA</th> <th rowspan="2">Duration of Flow</th> </tr> <tr> <th>NO.</th> <th>Prover Line Size</th> <th>X</th> <th>Orifice Size</th> <th>Press. p.s.i.g.</th> <th>Diff. h_v</th> <th>Temp. °F</th> <th>Press. p.s.i.g.</th> <th>Temp. °F</th> <th>Press. p.s.i.g.</th> <th>Temp. °F</th> </tr> <tr> <td>51</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>892</td> <td></td> <td>894</td> <td></td> <td rowspan="5">7 days 3 hrs.</td> </tr> <tr> <td>1.</td> <td>1/2" gas. choke</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>127</td> <td>59°</td> <td>459</td> <td></td> </tr> <tr><td>2.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>4.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>5.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>				FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _v	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	51							892		894		7 days 3 hrs.	1.	1/2" gas. choke						127	59°	459		2.											3.											4.											5.										
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RATE OF FLOW CALCULATIONS																																																																																												
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super. Compres. Factor, F _{pv}	Rate of Flow Q, Mhd																																																																																					
1	5.4315		139	1.001	.9837	1.013	753																																																																																					
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NO.	P _f	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio																																																																																							
1					A.P.I. Gravity of Liquid Hydrocarbons																																																																																							
2					Specific Gravity Separator Gas																																																																																							
3					Specific Gravity Flowing Fluid																																																																																							
4					Critical Pressure P.S.I.A.																																																																																							
5					Critical Temperature °R																																																																																							
$P_f = 906$ $P_w = 820$ $P_{f2} = 836$					(1) $\frac{P_{f2}^2}{P_f^2 - P_{f2}^2} = 1.37$ (2) $\left[\frac{P_{f2}^2}{P_f^2 - P_{f2}^2} \right]^n = 1.31$																																																																																							
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1		471	221,641	596,995																																																																																								
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Absolute Gas Flow					Mhd @ 15.75		40°		Store, n .85																																																																																			
Remarks: Dry Gas!																																																																																												
Approved by Division					Conducted by		Checked by																																																																																					
Anderson					Anderson																																																																																							