

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

JUL 23 1981

Type Test: ☒ Initial ☐ Annual ☐ Special		Test Date 7/13/81		O.C.D. ARTESIA, OFFICE	
Company Collier Energy, Inc.		Connection None			
Pool Vacuum		Formation Queen		Unit	
Completion Date 7/13/81		Total Depth 4762'		Plug Rock TD 4552'	
Elevation 3939' GL		Form. or Lease Name Mesa State			
Casing Size 4 1/2"	Wt. 10.5	d 4.052	Set At 4565'	Perforations: From 4436 To 4443	
Well No. 1					
Tub. Size 2 3/8"	Wt. 4.7	d 1.995	Set At 4390'	Perforations: Open Ended From To	
Unit F	Sec. 20	Twp. 18s	Range 35e		
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single				Packer Set At 4390'	
Producing Thru Tubing		Reservoir Temp. °F 94 3615'		Mean Annual Temp. °F 60°	
Baro. Press. - P ₀ 13.2		State New Mexico			
L * 4440'	H -	G _g 0.7926	% CO ₂ 3.334	% N ₂ 28.613	% H ₂ S 0.000
Prover 2"	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							1421 DWT	60	PACKER		92.5 hrs
1.	2	7/64	0.750	21		58	1224				1.0 hr
2.	2	10/64	0.750	57		54	845				1.0 hr
3.	2	11.5/64	0.750	69		60	670				1.0 hr
4.	2	14/64	0.750	78		60	572				1.0 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 Q, Mcd
1	9.453	-	34.2	1.002	1.123	-	363.78
2	9.453	-	70.2	1.006	1.123	-	749.69
3	9.453	-	82.2	1.000	1.123	-	872.61
4	9.453	-	91.2	1.000	1.123	-	968.15
5							

NO.	P _g	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry Gas	Mcf/bbl.
1	0.05	518	1.55	-	A.P.L. Gravity of Liquid Hydrocarbons	-	Deg.
2	0.11	514	1.53	-	Specific Gravity Separator Gas	0.7926	X X X X X X X X
3	0.13	520	1.55	-	Specific Gravity Flowing Fluid	X X X X X	
4	0.14	520	1.55	-	Critical Pressure	634	P.S.I.A.
5					Critical Temperature	335	R

NO.	P _w *	P _w ²	P _e ² - P _w ²	(1) $\frac{P_e^2}{P_e^2 - P_w^2} =$	(2) $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n =$
1	1522.2	2317.1	392.9	6.897	2.898
2	1128.2	1272.8	1437.2		
3	920.2	846.8	1863.2		
4	651.2	424.1	2285.9		
5					

$P_e = 1646.2$ $P_e^2 = 2710.0$

Absolute Open Flow 1054 Mcd @ 15.025 Angle of Slope 61° 39' Slope, n 0.551

Remarks: * BOTTOM HOLE PRESSURE @ (-501) 4440' USED FOR PRESSURE CALCULATIONS

Approved By: Division	Conducted By: JARREL WELL TESTING, INC	Calculated By: Joe A. Coleman	Checked By: PE #2208 Joe A. Coleman
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