

N. M. O. C. C. CORY

MULTI-POINT AND ONE-POINT BACK PRESSURE TEST FOR GAS WELL

Rev. 1-6-69

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date	
Company Black River Corporation				Connection El Paso Natural Gas	
Pool Washington Ranch				Formation Morrow	
Completion Date 6/11/72		Total Depth 7125		Plug Back TD 7075	
				Elevation 3780 KB	
Farm or Lease Name BR-Federal "4"				Well No. 1-F	
Casing Size 5-1/2	Wt. 14-15.5	d 	Set At 7125	Perforations: From 7024 To 7039	
Tubing Size 2-7/8	Wt. 6.5	d 2.441	Set At 6975	Perforations: From To	
Type Well - Single - Artesian - G.G. or G.O. Multiple G. G. Multiple				Packer Set At 6975	
Producing Thru TBG				State New Mexico	
Reservoir Temp. °F 131 @ 7030		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L 7030	H 7030	G _g 0.58	% CO ₂	% N ₂	% H ₂ S
Prover				Meter Run 4"	Taps Flange

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.	
1.	42 hours						2410			
2.	4 x 2.250			320	8	72	1850	80		
3.	4 x 2.250			335	16	84	1668	82		
4.	4 x 2.250			400	24	72	1307	84		
5.	4 x 2.250			410	31	61	1101	86		

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	25.64	51.6	333.2	0.9887	1.313	1.025	1.760
2.	25.64	74.6	348.2	0.9777	1.313	1.024	2.514
3.	25.64	99.6	413.2	0.9887	1.313	1.031	3.418
4.	25.64	114.8	423.2	0.9990	1.313	1.034	3.992

NO.	F _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry	Mcf/bbl.
1.	0.50	532	1.52	0.951	A.P.I. Gravity of Liquid Hydrocarbons	-0-	Deg.
2.	0.52	544	1.55	0.953	Specific Gravity Separator Gas	0.58	XXXXXX
3.	0.61	532	1.52	0.941	Specific Gravity Flowing Fluid	XXXXXX	
4.	0.63	521	1.49	0.935	Critical Pressure	672	P.S.I.A.
5.					Critical Temperature	350	°R

NO.	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.3023$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.3023$
1.	3471.51	3493.42	2378.48		
2.	2826.43	2871.94	2999.96		
3.	1742.93	1829.80	4042.10		
4.	1241.44	1363.08	4508.82		

Absolute Open Flow		5199	Mcf @ 15.025	Angle of Slope	45°	Slope	1.000
Remarks:							

Approved By Commission:	Conducted By: J. T. Berry	Calculated By: J. T. Berry	Checked By:
-------------------------	------------------------------	-------------------------------	-------------