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appropriate district office
See Rule 401 & Rule 1122

State of New Mexico
Energy, Minerals and Natural Resources

Marathon Oil Company Form C-122

Revised 4-1-91

OIL CONSERVATION DIVISION

OCT 16 1995

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

INDIAN BASIN ASSET TEAM
MID-CONTINENT REGION

clsf

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator MARATHON				Lease or Unit Name North Indian Basin Unit Com			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 10/09/95		Well No. 21	
Completion Date 10/09/95		Total Depth 9470'		Plug Back TD 9463'		Elevation GL: 3747	
Unit Ltr. - Sec. - TWP - Rge. F, 11, 21-S, 23-E							
Csg. Size 7"	Wt. 26	d 6.276	Set At 9283	Perforations: From: 9314 To: 9420			County Eddy
Tbg. Size 2.875	Wt. 6.5	d 2.441	Set At 9283	Perforations: Open Ended			Pool Indian Basin Morrow
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 9243		Formation Morrow	
Producing Thru Tbg.		Reservoir Temp. °F 171@9367		Mean Annual Temp. °F 60		Baro. Press - P. 13.20	
Connection							
L 9367.	H 9367.	Gg .588	% CO ₂ 2.73	% N ₂ 21	% H ₂ S 0.00	Prover .0	Meter Run 3.1
						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.		Temp. °F
SI							2974.	70.			72.0
1.	3.07	x	2.250	198.	8.4	67.	2652.	66.	0.	0.	1.0
2.	3.07	x	2.250	208.	9.0	68.	2697.	68.	0.	0.	1.0
3.	3.07	x	2.250	217.	23.0	66.	2452.	72.	0.	0.	1.0
4.	3.07	x	2.250.	217.	31.4	64.	2457.	79.	0.	0.	1.0
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, Mcfd
1.	28.78	42.18	211.6	.9933	1.3041	1.0165	1599.
2.	28.78	44.59	220.9	.9924	1.3041	1.0171	1689.
3.	28.78	72.86	230.4	.9943	1.3041	1.0181	2768.
4.	28.78	85.00	230.4	.9962	1.3041	1.0184	3236.
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	.31	527.	1.49	.968	.000	1.0165	1599.
2.	.33	528.	1.50	.967	56.0	1.0171	1689.
3.	.34	526.	1.49	.965	A.P. I. Gravity of Liquid Hydrocarbons	1.0181	2768.
4.	.34	524.	1.48	.964	Specific Gravity Separator Gas	1.0184	3236.
5.					Specific Gravity Flowing Fluid		
					Critical Pressure	676 P.S.I.A.	676 P.S.I.A.
					Critical Temperature	353. R	353. R

P _c	2978.0	P _c ²	8869.				
NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.2166$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.2166$	
1.	2665.	7100.	1768.	2978.0			
2.	2708.	7333.	1536.	8869.			
3.	2468.	6093.	2775.	3.2166	AOF = Q	$\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 10410$	
4.	2472.	6111.	2757.	3.2166			
5.							

Absolute Open Flow **10410** Mcfd @ 15.025 Angle of Slope θ **45** Slope, n **1.000**

Remarks:

Approved By Division _____ Conducted By: _____ Calculated By: *Stephen Cassel* Checked By: *Supa Carl*