

Submit in duplicate to
appropriate district office
See Rule 401 & Rule 1122

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator MARATHON OIL CO.						Lease or Unit Name INDIAN BASIN FED COM					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 4-28-97		Well No. 2			
Completion Date 4-22-97		Total Depth 9751		Plug Back TD 9648		Elevation 3762		Unit Ltr. - Sec. - TWP - Rge. J 19-21-24			
Csg. Size 5.5	Wt. 15.5	d 4.95	Set At 9740	Perforations: From: 9552 To: 9564		County EDDY					
Tbg. Size 2.875	Wt. 6.5	d 2.441	Set At 9452	Perforations: From: 9570 To: 9580		Pool Indian Basin Morrow					
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE				Packer Set At 9452		Formation					
Producing Thru TUBING		Reservoir Temp. °F 172 @ 9566		Mean Annual Temp. °F 60		Baro. Press - P. 1312		Connection			
L 9566	H 9566	Gg 0.591	% CO ₂ 0.75	% N ₂ 0.22	% H ₂ S 0.00	Prover		Meter Run 4.026		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	BH Press. p.s.i.g.	BH Temp. °F	Press. p.s.i.g.	Temp. °F	
SI						1781	172	---	---	24
1.	4.026 x 2.0		211	12.3	73	1617	172	---	---	1.0
2.	4.026 x 2.0		211	21.2	94	1550	172	---	---	1.0
3.	4.026 x 2.0		217	41.0	102	1404	172	---	---	1.0
4.	4.026 x 2.0		234	60.8	80	1209	172	---	---	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.	19.81	52.50	224.1	0.9877	1.3008	1.0169	1359
2.	19.81	68.93	224.1	0.9688	1.3008	1.0147	1746
3.	19.81	97.07	229.8	0.9619	1.3008	1.0143	2441
4.	19.81	122.60	247.2	0.9813	1.3008	1.0179	3156
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	0.33	533	1.51	0.967	A.P. I. Gravity of Liquid Hydrocarbons	---
2.	0.33	554	1.57	0.971	Specific Gravity Separator Gas	0.591
3.	0.34	562	1.59	0.972	Specific Gravity Flowing Fluid	XXXXXX
4.	0.37	540	1.53	0.965	Critical Pressure	676 P.S.I.A.
5.					Critical Temperature	354 R

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1.		1315	1729	356
2.		1262	1592	492
3.		1147	1314	770
4.		992	985	1100
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.8954$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 5068$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.6059$

Absolute Open Flow	5068	Mcf/d @ 15.025	Angle of Slope θ	53.5	Slope, n	0.741
--------------------	------	----------------	------------------	------	----------	-------

Remarks:

Approved By Division	Conducted By: METERING & TESTING	Calculated By: CHAD R. MAJOR	Checked By:
----------------------	-------------------------------------	---------------------------------	-------------