

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 J. GARVIN 22 ST			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 7/30/98			
Completion Date 7-18-98		Total Depth 11,085'		Plug Back TD 11,081'		Elevation 3586'	
Casing Size 5 1/2		WL 20#	d 4.778	Set At 11,085'	Perforations: From: To:		Country EDDY
Tubg. Size 2-7/8		WL 6.5	d 2.441	Set At 10628	Perforations: From: 10817 To: 10877		Pool North Turkey Track-Morrow
Type Well - Single - Bradenhead - G.G. or G.Q. Multiple single				Packer Set At 10628		Formation MORROW	
Producing Thru TBG		Reservoir Temp. °F 172.98		Mean Annual Temp. °F 60°		Baro. Press. - P 13.2	
L 10643		IL 10643	Gg .634	% CO ₂ .563	% N ₂ .369	% H ₂ S N/A	Prover N/A
							Meter Run 4.026
							Taps FLG

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	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	
51						3220		pkz	N/a	
1.	4.026 X 2.000		270	2"	94°	3200	94°	"	"	45min
2.	4.026 X 2.000		275	7"	60°	3165	98°	"	"	45min
3.	4.026 X 2.000		275	36"	58°	3070	98°	"	"	60min
4.	4.026 X 2.000		280	94"	60°	2930	96°	"	"	60min
5.										

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	19.81	23.79	283.2	.9688	1.256	1.042	597
2.	19.81	44.91	288.2	1.000	1.256	1.050	1173
3.	19.81	101.85	288.2	1.002	1.256	1.049	2663
4.	19.81	166.01	293.2	1.000	1.256	1.050	4337
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mc/bbl
1.	.82	554	1.52	.921	N/A	
2.	.77	520	1.42	.907	A.P. I. Gravity of Liquid Hydrocarbons	N/A
3.	.76	518	1.42	.908	Specific Gravity Separator Gas	.634
4.	.77	520	1.42	.907	Specific Gravity Flowing Fluid	N/A
5.					Critical Pressure	673
					Critical Temperature	364

P _c 3335.1 P _c ² 11,122.9					1) $\frac{P_c^2}{P_c^2 - P_w^2} = 8.1$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 8.1$
NO.	P _c ²	P _w	P _w ²	P _c ² - P _w ²	$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 35129.7$	
1.		3245.5	10533.3	589.6		
2.		3181.9	10124.5	998.4		
3.		3133.0	9815.7	1307.2		
4.		3122.6	9750.6	1372.3		
5.						

Absolute Open Flow	35129.7	Mcfd @ 15.025	Angle of Slope θ	45°	Slope, n	1.000
--------------------	---------	---------------	------------------	-----	----------	-------

Remarks: * CALCULATED FROM KNOWN BOTTOM HOLE PRESSURES
* NO FLUID MADE DURING TEST

Approved By Division	Conducted By: PRO WELL TESTING	Calculated By: MB	Checked By: BM
----------------------	-----------------------------------	----------------------	-------------------