

45-1e

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 7-14-92				
Company MATADOR PETROLEUM				Connection AIR					
Pool #1A Alacran Hills W/sep				Formation WOLFCAMP				Unit C	
Completion Date 1-2-92		Total Depth 11002		Plug Back TD 11002		Elevation		Farm or Lease Name FED 9 COM	
Coq. Size 5.5	Wt. 17	d 4.892	Set At	Perforations: From 9393 To 9426		Well No. #1			
Thq. Size 2.375	Wt. 4.7	d 1.995	Set At 9361	Perforations: From To		Unit C		Sec. 9	Twp. 21S
Type Well - Single - Brdenhead - G.G. or G.O. Multiple SINGLE (GAS)				Packer Set At 9261		County EDDY			
Producing Thru TBG. (GAS)		Reservoir Temp. °F 180 @ 9410		Mean Annual Temp. °F 60		Baro. Press. -- P _a 13.2		State NEW MEXICO	
L 9410	H 9410	G _g 0.699	% CO ₂ 0.081	% N ₂ 0.934	% H ₂ S 0.0	Prover 0.0	Meter Run 3.0	Taps FLG.	

FLOW DATA						TUBING DATA		BHP 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							977	60	1257	180	72
1.	3.0 x 1.0			150	76	60	938	60	1216	180	1
2.	3.0 x 1.375			150	34	60	899	60	1173	180	1
3.	3.0 x 1.375			155	94	60	830	60	1125	180	1
4.	3.0 x 1.75			170	44	60	740	60	1045	180	1
5.											

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 _{sp}	Rate of Flow Q, Mcfd
1	4.789	111.37	163.2	1.000	1.196	1.018	649
2	9.249	74.49	163.2	1.000	1.196	1.018	839
3	9.249	125.74	168.2	1.000	1.196	1.019	1417
4	15.61	89.78	183.2	1.000	1.196	1.020	1710
5.							

NO.	P ₁	Temp. °R	T ₁	Z	Gas Liquid Hydrocarbon Ratio	DRY GAS	Mcft/bbl.
1	0.243	520	1.34	0.965	A.P.L. Gravity of Liquid Hydrocarbons	DRY	
2	0.243	520	1.34	0.965	Specific Gravity Separator Gas	0.699	XXXXXX
3	0.251	520	1.34	0.964	Specific Gravity Flowing Fluid	XXXXXX	
4	0.273	520	1.34	0.961	Critical Pressure	671	P.S.I.A.
5					Critical Temperature	388	R

NO.	P ₁	P _w	P _w ²	P ₁ ² - P _w ²
1		1216	1478	102
2		1173	1376	204
3		1125	1266	314
4		1045	1092	488
5				

(1) $\frac{P_1^2}{P_1^2 - P_w^2} = 3.24$

AOR = Q $\left[\frac{P_1^2}{P_1^2 - P_w^2} \right]^n = 3699$

(2) $\left[\frac{P_1^2}{P_1^2 - P_w^2} \right]^n = 2.16$

Absolute Open Flow	3699	Mcfd @ 15.025	Angle of Slope θ	Slope, n	0.654
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Remarks: CHOKE SIZES = 1ST RATE - 10/64, 2ND - 12/64, 3RD - 16/64, 4TH - 19/64

Approved By Division	Conducted By: KELTIC SERVICES	Calculated By: JIM SMITH	Checked By:
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