

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: ☒ Initial ☐ Annual ☐ Special						Test Date: 09-05-87			
Company: MAXUS EXPLORATION COMPANY				Connection: W.O. PIPELINE CONNECTION					
Pool: ANTELOPE RIDGE				Formation: <u>ATOKA</u>				Unit: P	
Completion Date: 08-22-87		Total Depth: 13,562		Plug Back TD: 13,512		Elevation: 3430 RKB 3403 GR		Farm or Lease Name: Federal #19143	
Csq. Size: 5 1/2 liner	Wt.: 17.9	d:	Set At: 13,559'	Perforations: From 12,191' To 12,244			Well No.: 2		
Tbg. Size: 2 3/8	Wt.: 4.7	d: 1.995	Set At: 11,348	Perforations: From To			Unit Sec. Twp. Rge.: 34 P 34 22-S 34-E		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Gas/Gas Multiple						Packer Set At: anchor @ 11,349'		County: Lea	
Producing Thru: 2 3/8" tbg		Reservoir Temp. °F: 173° 12,217		Mean Annual Temp. °F: 60°		Baro. Press. - P _a : 13.2 psia		State: New Mexico	
L: 11,349	H: 12,217	G _g : .6754	% CO ₂ : .398	% N ₂ : .776	% H ₂ S: none	Prover: --	Meter Run: 2.067	Taps: FT	

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						80°	+3050	80°	3100	80°	
1.	2.067	x	1.50	845	12	87°	850	87°	1100	90°	24 hrs
2.											
3.											
4.											
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	16.9	100.70	845	.9750	.9425	1.078	1686
2.							
3.							
4.							
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio: 23.74 Mcf/bbl.
1	1.27	547	1.43	.855	A.P.I. Gravity of Liquid Hydrocarbons: 49.8° @ 60°F Deg.
2.					Specific Gravity Separator Gas: .6754 X X X X X X X X
3.					Specific Gravity Flowing Fluid: X X X X X
4.					Critical Pressure: 670 P.S.I.A. P.S.I.A.
5.					Critical Temperature: 382 R R

P _c 4233 psia P _c ² 17,918,289				
NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1	745,114	1250	1562500	817,386
2				
3				
4				
5				

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

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

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

Absolute Open Flow: 37,000 Mcfd @ 15.025	Angle of Slope θ: 45°	Slope, n: 1.0
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Remarks: During this 24 hour test, 71 bbls of 49.8° API condensate & 8 bbls of water were produced. The slope was assumed. A four point retest will be performed after the reservoir has a chance to clean up.

ORIGINAL SIGNED BY: DISTRICT 1 SUPERVISOR	Conducted By: Gene Poole	Calculated By: Greg Drwenski	Checked By:
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Federal # 2-1743 (UT Atoka test)

One Point Test Showing Bottom Hole Performance

