

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 1/5/90		Q.C.D. ANALYSIS OFFICE	
Company Bettis, Boyle, and Stovall		Connection El Paso			
Pool South Sand Dunes <i>L/Penn.</i>		Formation Morrow		Unit	
Completion Date 12/29/89		Total Depth 16615		Plug Back TD 16119	
Elevation 3528.1 KB		Form. or Lease Name Lotos "A" Federal			
Cas. Size 7"	Wt. 35.0	d 6.004	Set At 16426	Perforations: From 15024 To 15048	
Trq. Size 2 7/8"	Wt. 6.5	d 2.441	Set At 15003	Perforations: From Open To Ended	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 14992	
Producing Thru Tubing		Reservoir Temp. °F 228 @ 14950		Mean Annual Temp. °F 60	
		Baro. Press. - P _a 13.2		State New Mexico	
L -	H -	Cg 0.579	% CO ₂ 1.22	% N ₂ 0.08	% H ₂ S -
Prover -		Meter Run 4.026		Taps Flg	

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. DWT	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI							5099	60	Packer		6 days
1.	4.026	4/64	1.250	690	4"	96°	4816				1.0 hour
2.	4.026	9/64	1.250	700	14"	99°	4474				1.0 hour
3.	4.026	12/64	1.250	700	33"	90°	4103				1.0 hour
4.	4.026	15/64	1.250	710	63"	90°	3592				1.0 hour
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, Mscf/d
1	7.469	53.04	703.2	0.9671	1.314	1.038	523
2	7.469	99.92	713.2	0.9645	1.314	1.038	982
3	7.469	153.41	713.2	0.9723	1.314	1.040	1522
4	7.469	213.45	723.2	0.9723	1.314	1.041	2120
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Dry Gas _____ Mcf/bbl.	
1	1.04	556	1.64	0.928	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.	
2	1.05	559	1.64	0.928	Specific Gravity Separator Gas 0.579 XXXXXXXXXX	
3	1.05	550	1.62	0.924	Specific Gravity Flowing Fluid XXXXX	
4	1.07	550	1.62	0.923	Critical Pressure 679 P.S.I.A. _____ P.S.I.A.	
5					Critical Temperature 340 _____ R _____ R	

P _r 6609.2 P _r ² 43681.5			
NO.	P _i ²	P _w	P _w ²
1		6291.2	39579.2
2		5909.2	34918.6
3		5499.2	30241.2
4		4908.2	24090.4
5			

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 2.230$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4325$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.040$$

*Post ID-2
3-9-90
comp + BK*

Absolute Open Flow 4325	Mscf @ 15.025	Angle of Slope 48° 22'	Slope, n 0.889
Remarks: Bottom Hole Pressures @ 15036' (-11508) used for pressure calculations.			

Approved By Division	Conducted By: Jarrel Services, Inc.	Calculated By: D. Dickerson	Checked By: <i>D. Dickerson</i> D. Dickerson
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