

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 12-19-88		JAN 09 '89	
Company BETTIS, BOYLE & STOVALL			Connection AIR NEW WELL		
Pool S. Sand Dunes 2/Penn UNDESIGNATED			Formation MORROW		
Completion Date 11-27-88		Total Depth 15300		Plug Back TD 15185	
Elevation 3483		Form or Lease Name LOTOS FEDERAL			
Coq. Size 5.500	Wt. 23.0	d 4.670	Set At 15185	Perforations: From 14994 To 15004	
Thq. Size 2.875	Wt. 6.5	d 2.441	Set At 14973	Perforations: From To	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE				Packer Set At 14960	
Producing Thru TUBING		Reservoir Temp. °F 235 @ 14999		Mean Annual Temp. °F 60°	
Baro. Press. - P _a 13.2		State NEW MEXICO			
L 14999	H 14999	G _g 0.592	% CO ₂ 1.79	% N ₂ 0.200	% H ₂ S 0
Prover 0		Meter Run 4.0		Taps FLNG	

FLOW DATA						TUBING DATA		BHP DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	CHOKE	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI							6450		8147	235	72.
1.	4.03 X 2.00			600	5.0	110	6400	8/64	8097	235	1
2.	4.03 X 2.00			600	14.0	106	6330	11/64	8040	235	1
3.	4.03 X 2.00			590	26.0	95	6245	13/64	7992	235	1
4.	4.03 X 2.00			580	51.0	96	6100	16/64	7866	235	1
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	55.37	613.2	0.9551	1.2997	1.0348	1409.
2	19.81	92.65	613.2	0.9585	1.2997	1.0358	2369.
3	19.81	125.23	613.2	0.9680	1.2997	1.0358	3242.
4	19.81	173.93	613.2	0.9671	1.2997	1.0375	4494.
5.							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1.	0.90	570	1.62	0.934	0	0	0.592	XXXXXX	680	352
2.	0.90	566	1.61	0.932						
3.	0.89	555	1.57	0.927						
4.	0.87	556	1.58	0.929						
5.										

P_c 6450.0 P_c² 41602

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1		6405.	41030	572
2		6354.	40372	1230
3		6311.	39831	1771
4		6198.	38412	3190
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{13.0408}{13.0408 - 13.0408} = \dots$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{5.6044}{5.6044 - 5.6044} = \dots$

AOIF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 25,188.0$

Absolute Open Flow	25,188.0	Mcf/d @ 15.025	Angle of Slope @	56.1	Slope, n	.671
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Remarks: BHP MEASURED WITH AMERADA PRESSURE ELEMENTS

Approved By Division	Conducted By: BENNETT-CATHEY	Calculated By: MATT LEE	Checked By:
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