

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☐ Initial ☐ Annual ☐ Special				Test Date 02-Jul-1987	
Company Meridian Oil Company				Connection	
Pool Benson <i>Strawn</i>				Formation Strawn	
Completion Date 6-25-87		Total Depth 11,000		Plug Back TD 10950	
Elevation 3443' GR		Farm or Lease Name Benson 34 Fed			
Ceq. Size 5 1/2	Wt. 23	d	Set At 11,000	Perforations: From 10898 To 10910	
Thq. Size 2 3/8	Wt. 4.7	d	Set At 10800	Perforations: From To	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single				Packer Set At 10800	
Producing Thru Tubing		Reservoir Temp. °F 168 • 10748		Mean Annual Temp. °F 60	
Baro. Press. - P _a 13.2		State New Mexico			
L 10904	H 10904	G _g 0.734	% CO ₂ 0.130	% N ₂ 1.91	% H ₂ S 0.0
Prover		Meter Run 4.026		Taps Flange	

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							1661		PKR		66
1.	4.026 x 1.250			370	72	72	950	82			1
2.	4.026 x 1.250			370	39	77	1050	86			1
3.	4.026 x 1.250			370	18	84	1162	88			1
4.	4.026 x 1.250			360	7	97	1233	99			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 _{pv}	Rate of Flow Q, Mcfd
1	7.469	166.10	383.2	0.9887	1.168	1.0424	1493.4
2	7.469	122.25	383.2	0.9840	1.168	1.0410	1092.4
3	7.469	83.05	383.2	0.9777	1.168	1.0391	736.1
4	7.469	51.11	373.2	0.9662	1.168	1.0349	445.9
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1					A.P.I. Gravity of Liquid Hydrocarbons 42.9	Deg.
2					Specific Gravity Separator Gas 0.7335	X X X X X X X X
3					Specific Gravity Flowing Fluid X X X X X	
4					Critical Pressure 668 + 8 - 3 = 673	P.S.I.A.
5					Critical Temperature 401 + -3 -6 = 392	R

P _c 3627	P _c ² 13,155			
NO.	P _r ²	P _w	P _w ²	P _c ² - P _w ²
1	2837	8049	5107	
2	2881	8300	4855	
3	3016	9096	4059	
4	3172	10062	3094	
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{13155}{13155 - 5107} = \frac{13155}{8048} = 1.634$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \left[1.634 \right]^1 = 1.634$

ACF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1493.4 \times 1.634 = 2440$

Absolute Open Flow 3847	Mcf @ 15.025	Angle of Slope 45	Slope, n 1.0
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Remarks: Bottom hole pressures measured with recorder #35047 at 10748, corrected to mid-perf.

Approved By Division	Conducted By: Flopetrol Johnston	Calculated By: Dick Simper	Checked By: J. Stark
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