

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 6-1-90	
Company TEXACO PRODUCING INC.			Connection SALES		
Pool BILBREY MORROW + ATOKA			Formation MORROW		Unit
Completion Date 5-29-90		Total Depth 14900	Plug Back TD 14748'		Elevation GR-3708'
Farm or Lease Name BILBREY "33" FED.					Well No. 1
Csg. Size 5.0	Wt. 18	d 4.151	Set At 14900'	Perforations: From 14332' To 14500'	
Tbg. Size 2.375	Wt. 4.7	d 1.995	Set At 14200'	Perforations: From To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE GG				Packer Set At 14200'	County LEA
Producing Thru TUBING		Reservoir Temp. °F 201 @ 14748	Mean Annual Temp. °F 60	Baro. Press. - P _a 13.2	State NEW MEXICO
L 14200	H 14200	G _g .612	% CO ₂ 0.98	% N ₂ 0.34	% H ₂ S
Prover			Meter Run 3.068	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	3.068		1.500				3670	70	PACKER		SI 72 m.
1.	3.068		1.500	673	6.0	70	3191.0	80			1.0 m.
2.	3.068		1.500	688	16.5	74	3138.0	80			1.0 m.
3.	3.068		1.500	575	41.0	54	3013.0	80			1.0 m.
4.	3.068		1.500	723	55.0	54	2924.0	80			1.0 m.
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	11.13	64.17	686.2	.9905	1.278	1.059	958
2	11.13	107.56	701.2	.9868	1.278	1.058	1598
3	11.13	155.29	588.2	1.0058	1.278	1.056	2347
4	11.13	201.22	736.2	1.0058	1.278	1.072	3086
5							

NO.	R	Temp. °R	T _g	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	1.02	530	1.47	.8917	130	
2	1.04	534	1.48	.8933	54	
3	.87	514	1.42	.8968		
4	1.09	514	1.42	.8702		
5						

$P_c = 3683.2$ $P_c^2 = 13566$ (Thou)				
NO.	P_c^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	10267	3376.8	11403	2163
2	9930.1	3336.8	11134	2432
3	9157.9	3252.2	10577	2989
4	8627.1	3203.7	10264	3302
5				

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 4.108$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.108$$

$AOI = Q$

$$\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 12679$$

Absolute Open Flow	12679	Mcf @ 15.025	Angle of Slope θ	45°	Slope, n	1.000
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Remarks:

Approved by Division	Conducted by: <i>Roy W. Sage</i>	Calculated by: <i>T.H. Morgan</i>	Checked by:
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