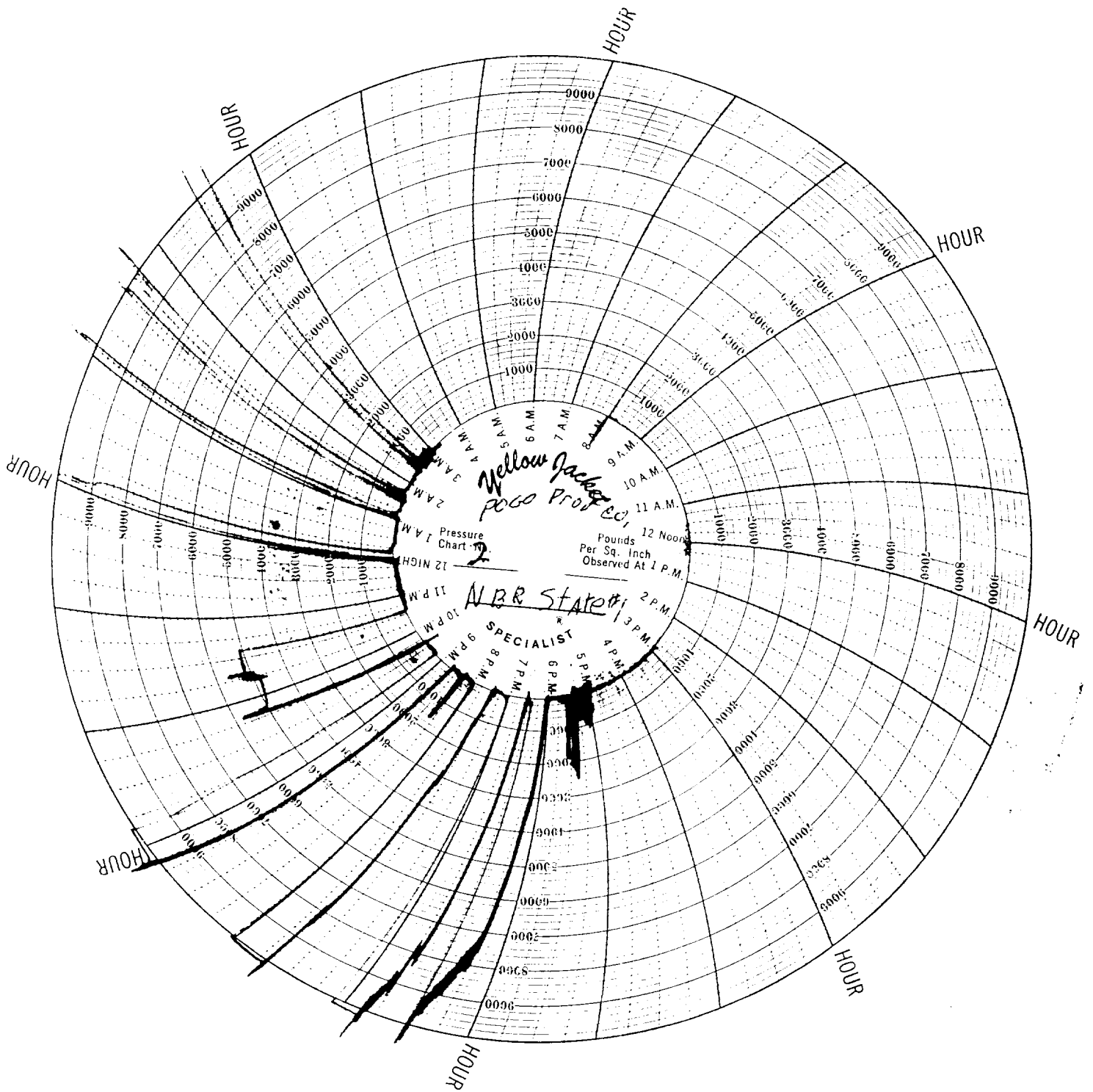




MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 2/6/81		RECEIVED	
Company Pogo Production Company				Connection None				FEB 11 1981	
Pool North Bootleg Ridge Undesignated				Formation Morrow				Unit MIDLAND	
Completion Date 2/3/81		Total Depth 15372'		Plug Back TD 15060'		Elevation 3663' KB-32		Farm or Loc. Name NBR State	
Coq. Size 5"	Wt. 18#	d 4.276	Set At 15120'	Perforations: From 14739' To 14956'		Well No. 1			
Thg. Size 2 3/8"	Wt. 5.9	d 1.867	Set At 3528	Perforations: Open ended		Unit J 18 22s 33e			
Type well - Single - Bradenhead - G.C. or G.O. Multiple Single				Packer Set At 13644'		County Lea		State New Mexico	
Producing Thru Tubing		Reservoir Temp. °F 204 @ 14863'		Mean Annual Temp. °F 60		Bero. Press. - P _o 13.2			
L 14863	H -	G _g 0.6712	% CO ₂ 0.998	% N ₂ 0.340	% H ₂ S -	Prover	Meter Run 3.826X1.500	Taps F	

FLOW DATA							TUBING DATA		CASING DATA		Location of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g. DWT	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI							5368	56	PACKER		72.0 hrs
1.	3.826	6.5/64	1.50	450	4	77	4770	60			1.0 hr
2.	3.826	8/64	1.50	460	8	74	4549	60			1.0 hr
3.	3.826	9.5/64	1.50	470	15	72	4324	60			1.0 hr
4.	3.826	10.5/64	1.50	450	32	66	4101	60			1.0 hr
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 _{spv}	Rate of Flow Q, Mhd
1	10.88	43.04	463.2	0.9840	1.221	1.045	587.93
2	10.88	61.53	473.2	0.9868	1.221	1.047	844.51
3	10.88	85.14	483.2	0.9887	1.221	1.048	1171.94
4	10.88	121.75	463.2	0.9943	1.221	1.049	1686.97
5							

NO.	R	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.L. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	0.69	537	1.42	0.916	6.502	-	0.6712	XXXXXX	672	378
2	0.70	534	1.41	0.913						
3	0.72	532	1.41	0.911						
4	0.69	526	1.39	0.909						
5										

NO.	P _w *	P _w ²	P _c ² - P _w ²
1	7616.2	58006.5	6799.2
2	7401.2	54777.8	10027.9
3	7110.2	50554.9	14250.8
4	6648.2	44198.6	20607.1
5			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 9.53$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4872$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 8.287$

Absolute Open Flow	4872	Mhd @ 15.025	Angle of Slope @	46° 50'	Slope, n	0.938
--------------------	------	--------------	------------------	---------	----------	-------

Remarks: * BOTTOM HOLE PRESSURE @ (-11244)14863' USED FOR PRESSURE CALCULATIONS
PRODUCED 27.50 BD in 4 hours = 165 BD/D

Approved By: <i>Terry Sexton</i> Terry Sexton Dist. & Supv.	Conducted By: JARREL SERVICES, INC.	Calculated By: Joe A. Coleman	Checked By: PE # 2208 Joe A. Coleman
---	--	----------------------------------	---