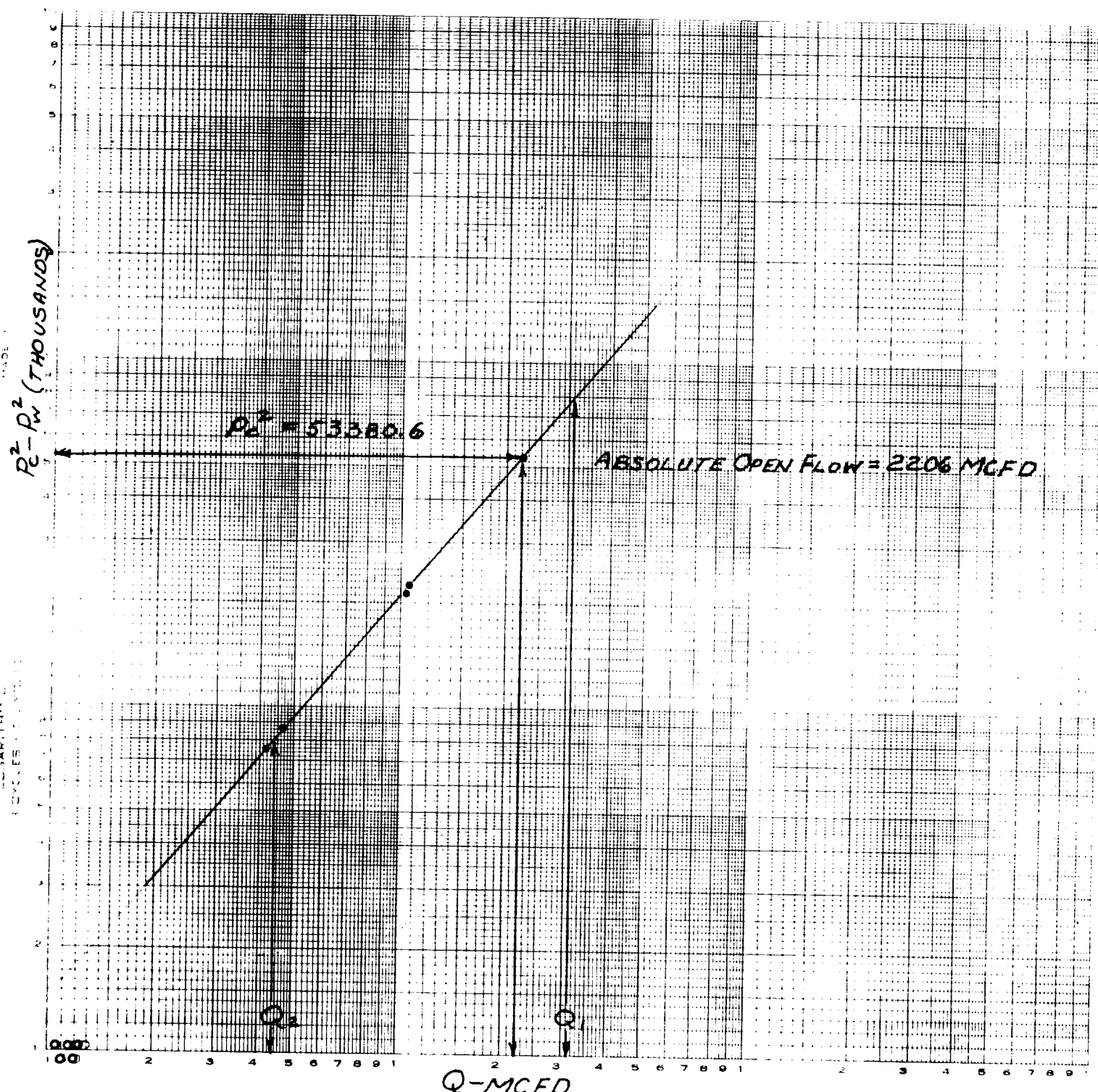


Type Test		☒ Initial		☐ Annual		☐ Special		Test Date		12/15/80	
Company				Connection							
Pogo Producing Company				None							
Pool				Formation				Unit			
OJO CHISO				MORROW							
Completion Date		Total Depth		Plug Back TD		Elevation		Form or Lease Name			
12/8/80		13514'		13456'		3487' GL		BKD Com			
Ceq. Size 5/8"		WI. 29.7		6.875		Set At 10774		Perforations:		Well No.	
5" Liner		18.0		4.276		13514		From 12794 To 13158		1	
Tbg. Size		WI.		d		Set At		Perforations:		Unit Sec. Twp. Range	
2 3/8"		4.7		1.995		12750		From Opened Ended To		H 14 22s 34e	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple						Packer Set At		County			
Single						12750'		Lea			
Producing Thru		Reservoir Temp. °F		Mean Annual Temp. °F		Boro. Press. - P ₀		State			
Tubing		185 @ 10773		60		13.2		New Mexico			
L		H		Gg		% CO ₂		% N ₂		% H ₂ S	
10773		-		0.6075		0.429		0.559		-	
Prover		Meter Run		Tels							
		4"		F							
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	Duration of Flow
SI							5877	72	PACKER		24.0 hrs.
1.	4	4/64	0.750	440	34	106	4762	72			4.50 hrs.
2.	4	5/64	0.750	445	40	92	4739	71			1.25 hrs.
3.	4	6/64	1.000	450	65	100	3855	67			2.00 hrs.
4.	4	7/64	1.250	465	26	94	4017	65			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 _{sv}	Rate of Flow Q, Mscf/d				
1	2.661	124.13	453.2	0.9585	1.282	1.028	417.25				
2	2.661	135.38	458.2	0.9706	1.282	1.031	462.15				
3	4.753	173.52	463.2	0.9636	1.282	1.030	1049.40				
4	7.469	111.50	478.2	0.9688	1.282	1.031	1066.40				
5											
NO.	P ₀	Temp. °R	T ₀	Z	Gas Liquid Hydrocarbon Ratio 107.896						
					A.P.L. Gravity of Liquid Hydrocarbons 49.1						
1	0.67	566	1.60	0.947	Specific Gravity Separator Gas 0.6075			X X X X X X X X			
2	0.68	552	1.56	0.941	Specific Gravity Flowing Fluid X X X X X						
3	0.69	560	1.58	0.943	Critical Pressure 674			P.S.I.A. - P.S.I.A.			
4	0.71	554	1.57	0.940	Critical Temperature 354			R - R			
5											
P ₀ 7306.2 P ₀ ² 53380.6											
NO.	P _w *	P _w ²	P ₀ ² - P _w ²	(1) $\frac{P_0^2}{P_0^2 - P_w^2} = 7.075$ (2) $\left[\frac{P_0^2}{P_0^2 - P_w^2} \right]^n = 5.286$							
1	6770.2	45835.6	7545.0								
2	5897.2	34777.0	18603.6								
3	5669.2	32139.8	21240.8								
4	5547.2	30771.4	22609.2	AOF = Q $\left[\frac{P_0^2}{P_0^2 - P_w^2} \right]^n = 2206$							
5											
Absolute Open Flow 2206				Mcf/d @ 15.025				Angle of Slope @ 49° 37'		Slope, n 0.851	
Remarks: * BOTTOM HOLE PRESSURE @ (-7286) 10773' USED FOR PRESSURE CALCULATION											
5" Liner Top @ 11100'											
2.53 BD in 8.75 hrs. = 6.94 BD/D											
Approved By: [Signature]				Conducted By: Otis Engineering Corp				Calculated By: Joe A. Coleman		Checked By: [Signature] Joe A. Coleman/PE #2208	

COMPANY: Pogo Producing Company
 WELL: BKD Com, No. 1
 LOCATION: H Sec 14 - 22s - 34e
 COUNTY: Lea
 DATE: December 15, 1980

NO. 3402-33 DIETZEN
 EUGENE DIETZEN CO.
 MADE IN U.S.A.
 LOGARITHMIC
 COORDINATES



$$Q_1 = 3100 \text{ MCFD}; \text{LOG } Q_1 = 3.49136$$

$$Q_2 = 437 \text{ MCFD}; \text{LOG } Q_2 = 2.64048$$

$$n = 0.85088 = 0.851$$