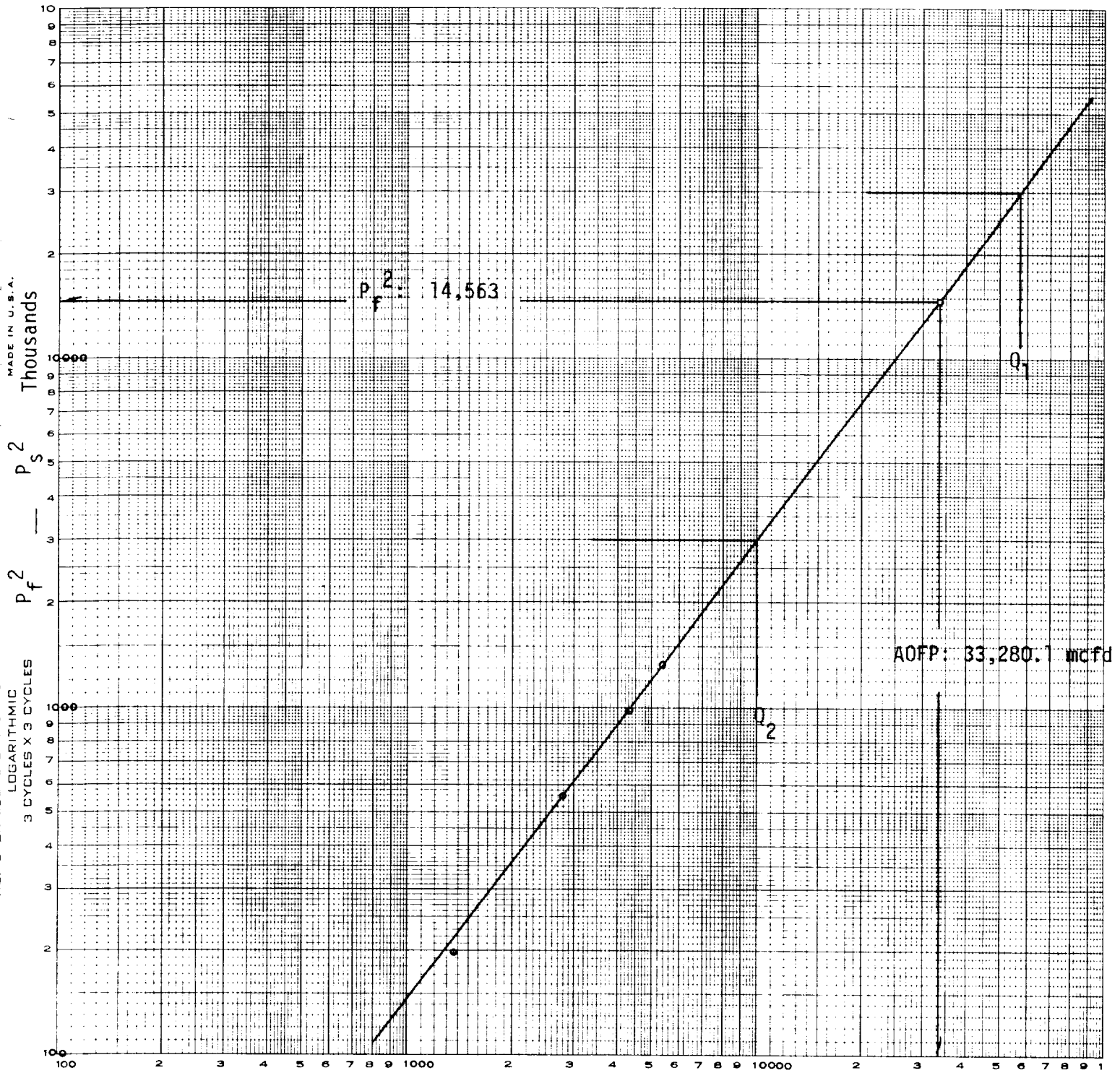


P-5838
 11-1-78

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 3-7-78		MAR 23 1978	
Company Harvey E. Yates Co.				Connection El Paso Natural Gas			
Pool Empire-morrow GAS Wildcat Under Morrow				Formation Morrow		Unit O.S.G. ARTESIA, OFFICE	
Completion Date 2-6-78		Total Depth 11270		Plug Back TD 11226		Elevation 3654KB	
Csg. Size 5 1/2		Wt. 17		Set At 11270		Perforations: From 10973 To 10994	
Tbg. Size 2 7/8		Wt. 6.5		Set At 10906		Perforations: From To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 10906		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 159 @ 10834		Mean Annual Temp. °F 70		Baro. Press. - P _a 13.2	
L 10984		H 10984		G _g 0.638		% CO ₂ 0.52	
				% N ₂ 0.46		% H ₂ S Nil	
				Prover		Meter Run X	
						Taps Flange	
FLOW DATA				TUBING DATA		CASING DATA	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.
NO.						°F	Temp. °F
SI	115 1/2 hrs.						Pkr.
1.	4.026 X 2.250		630	2.5	74	2759	70
2.	4.026 X 2.250		655	10	66	2702	70
3.	4.026 X 2.250		678	23	65	2642	70
4.	4.026 X 2.250		700	35	66	2583	70
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	25.64	40.10	643.2	0.9868	1.252	1.059	1345.2
2	25.64	81.79	668.2	0.9943	1.252	1.065	2780.3
3	25.64	126.10	691.2	0.9952	1.252	1.068	4302.5
4	25.64	157.99	713.2	0.9943	1.252	1.070	5395.8
5							
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ 101.14 Mcf/bbl.		
1.	0.96	534	1.44	0.891	A.P.I. Gravity of Liquid Hydrocarbons _____ 51° Deg.		
2.	1.00	526	1.42	0.881	Specific Gravity Separator Gas _____ 0.638 X X X X X X X X X X		
3.	1.03	525	1.42	0.877	Specific Gravity Flowing Fluid _____ X X X X X		
4.	1.06	526	1.42	0.874	Critical Pressure _____ 670 P.S.I.A. _____ P.S.I.A.		
5.					Critical Temperature _____ 371 R _____ R		
P ₁ 3816.2 P _f 14563							
NO.	P _i ²	P _s	P _s ²	P _f ² - P _s ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 11.099847$		
1		3790.2	14366	197	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 6.16778$		
2		3742.2	14004	559			
3		3685.2	13581	982			
4		3640.2	13251	1312	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 33,280.1$		
5							
Absolute Open Flow _____ 33,280.1 Mcfd @ 15.025				Angle of Slope @ _____ 52° 55'		Slope, n _____ 0.755875	
Remarks: _____ BHP measured with Amerada RPG-3 gauge Serial No. 10190, 0-4000 psi							
Approved By Commission:		Conducted By: Tefteller, Inc.		Calculated By: F. Tefteller		Checked By:	

Company: Harvey E. Yates Company
 Well : Travis Deep Ur | No. 3
 Field : Wildcat
 County : Eddy
 State : New Mexico
 Date : March 7, 1978

BACK PRESSURE CURVE



$$\begin{aligned}
 Q_1 &= 57,000; \log Q_1 = 4.755875 \\
 Q_2 &= 10,000; \log Q_2 = 4.00000 \\
 n &= 0.755875 \\
 \theta &= 52^\circ 55'
 \end{aligned}$$