

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 3-18-78		MAR 21 1978	
Company Harvey E. Yates Company		Connection Unconnected		U.S. GEOLOGICAL SURVEY ARTESIA, NEW MEXICO	
Pool Wildcat		Formation Morrow			
Completion Date 3-18-78		True Depth 10250		Elevation 3536 DF	
Csg. Size 4 1/2		Wt. 11.6		Set At 10250	
Tbg. Size 2 3/8		Wt. 4.7		Set At 9155	
Perforations: From 9128 To 9181		Perforations: From To		Well No. 1	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single		Packer Set At 8995		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 167 @ 8955		Mean Annual Temp. °F 70	
Baro. Press. - P _a 13.2		State New Mexico			
L 9155		H 9155		Gg 0.600	
% CO ₂		% N ₂		% H ₂ S	
Prover Pos. Cks		Meter Run		Taps	

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	40 hrs	Pos. Cks.		2609			2609		Pkr.		
1.	2"	X	5/64"	2392			2392	70			60 Min.
2.	2"	X	6/64"	2122			2122	72			60 Min.
3.	2"	X	7/64"	1685			1685	74			60 Min.
4.	2"	X	8/64"	1375			1375	76			60 Min.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super. Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	0.0966		2405.2	0.9905	1.291	1.148	341.1
2	0.1408		2135.2	0.9887	1.291	1.142	438.2
3	0.1925		1698.2	0.9868	1.291	1.127	469.4
4	0.2618		1388.2	0.9850	1.291	1.104	510.2
5							

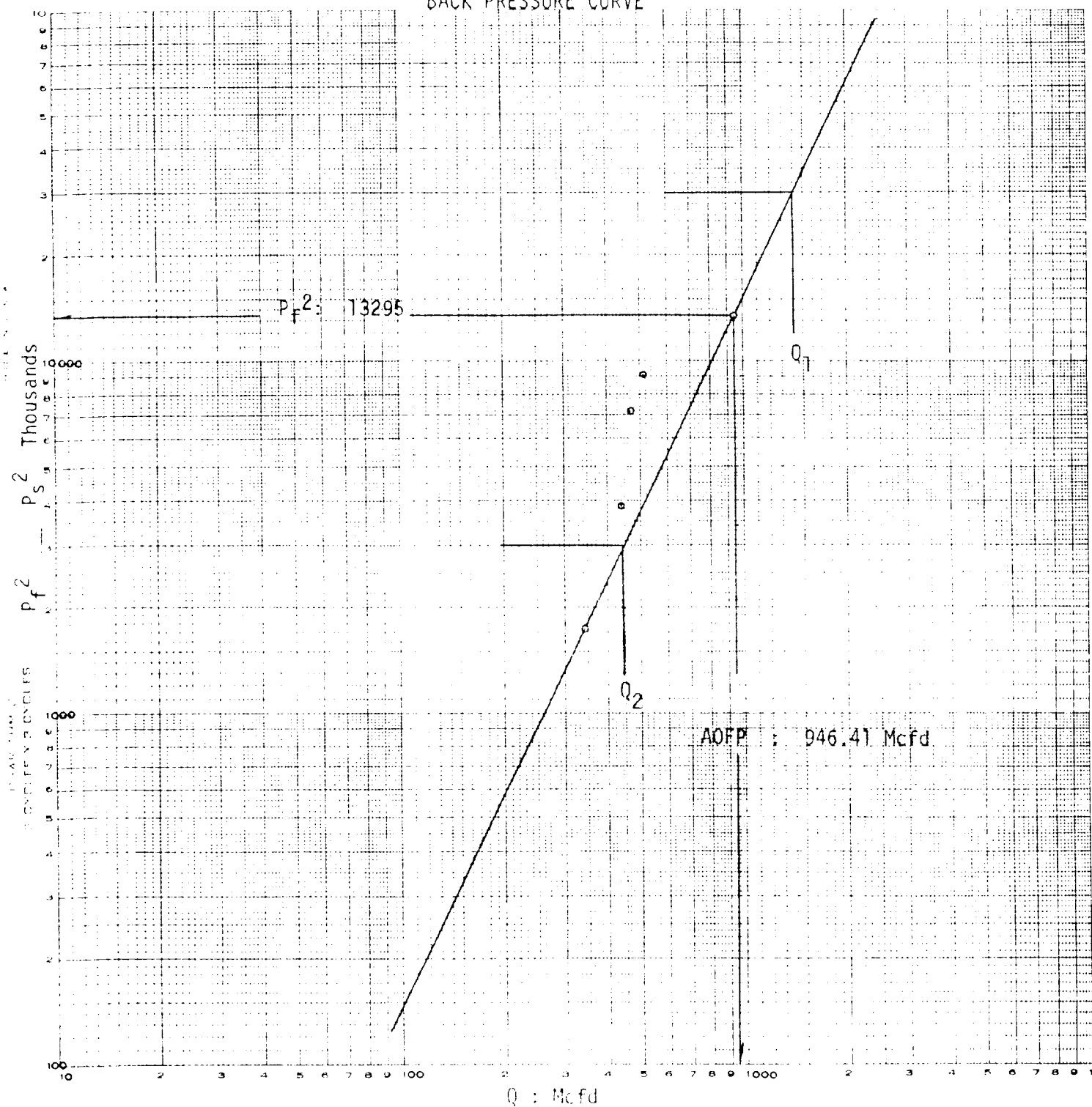
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio Mcf/bbl.	A.P.I. Gravity of Liquid Hydrocarbons Deg.	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure P.S.I.A.	Critical Temperature °R
1	3.58	530	1.48	0.759			0.600			
2	3.18	532	1.49	0.767						
3	2.53	534	1.49	0.788						
4	2.07	536	1.50	0.820						
5										

NO.	P _f	P _f ²	P _w ²	P _f ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 7.698321$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.774583$
1	3646.2	13295				
1		3401.2	11568	1727		
2		3070.6	9426	3869		
3		2482.2	6161	7134		
4		2065.2	4265	9030		
5						

Absolute Open Flow 946.41 Mcfd @ 15.025		Angle of Slope 63° 26'		Slope, 0.5000	
Remarks: BHP measured with Amerada RPG-3 gauge serial number 42344 0-6000 psi					
Approved By Commission:		Conducted By: Tefteller, Inc.		Calculated By: F. Tefteller	
				Checked By:	

Company : Harvey E. Yates Company
 Well : Gates Federal ep No. 1
 Field : Wildcat
 County : Eddy
 State : New Mexico
 Date : March 18, 1978

BACK PRESSURE CURVE



$$Q_1 = 1404 ; \log Q_1 = 3.1474$$

$$Q_2 = 444 ; \log Q_2 = 2.6474$$

$$n = 0.5000$$

$$\theta = 63^{\circ} 26'$$