

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

Form C-122
Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 05/02/74			
Company Atlantic Richfield				Connection None					
Pool Jalmat				Formation Yates				Unit	
Completion Date 04/21/74		Total Depth 3710		Plug Back TD 3695		Elevation 3561		Farm or Lease Name McDonald State WN	
Csg. Size 4.5	Wt. 9.5	d 4.090	Set At 3710	Perforations: From 3320 To 3667		Well No. 23			
Tbg. Size 2.375	Wt. 4.7	d 1.995	Set At 3254	Perforations: From Open To Ended		Unit Sec. Twp. Rge. C 15 22-S 36E			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 3254		County Lea			
Producing Thru Tbg		Reservoir Temp. °F 88		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State New Mexico	
L 3254	H 3254	Gg 0.692	% CO ₂ -0-	% N ₂ -0-	% H ₂ S -0-	Prover 2"	Meter Run Critical Flow	Taps Prover	

FLCW 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						70	258	70	Pkr		72 hr.
1.	2 x .250			247	---	78	247	78			1 hr.
2.	2 x .375			204	---	76	204	76			1 hr.
3.	2 x .375			238	---	74	238	74			1 hr.
4.	2 x .500			158	---	70	158	70			1 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 _{pv}	Rate of Flow Q, Mcfd
1	1.087	---	260.2	0.9831	1.202	1.027	343.2
2	2.378	---	217.2	0.9850	1.202	1.022	625.0
3	2.378	---	251.2	0.9868	1.202	1.027	727.7
4	4.279	---	171.2	0.9905	1.202	1.019	888.7
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	0.39	538	1.39	0.949	A.P.I. Gravity of Liquid Hydrocarbons	-0- Deg.
2.	0.32	536	1.38	0.957	Specific Gravity Separator Gas	0.692
3.	0.38	534	1.38	0.949	Specific Gravity Flowing Fluid	X X X X X
4.	0.26	530	1.37	0.964	Critical Pressure	669 P.S.I.A.
5.					Critical Temperature	388 R

NO.	P _t	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.201$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.804$
1	67.7		69.3	4.2	ACF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1,603$	
2	47.2		52.5	21.0		
3	40.1		47.3	26.2		
4	29.3		40.1	33.4		
5						

Absolute Open Flow 1,603 Mcfd @ 15.025		Angle of Slope θ 53	Slope, n 0.748
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Remarks: **Well tested with 2" Critical Flow Prover**

Approved By Commission: 	Conducted By: R. Erwin	Calculated By: R. Erwin	Checked By: L. C. Hudry
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COMPANY Atlantic Richfield LEASE McDonald State Nat

L 3254 H 3254 L/H 1 C 0.000 10002 669 388

1st Rate

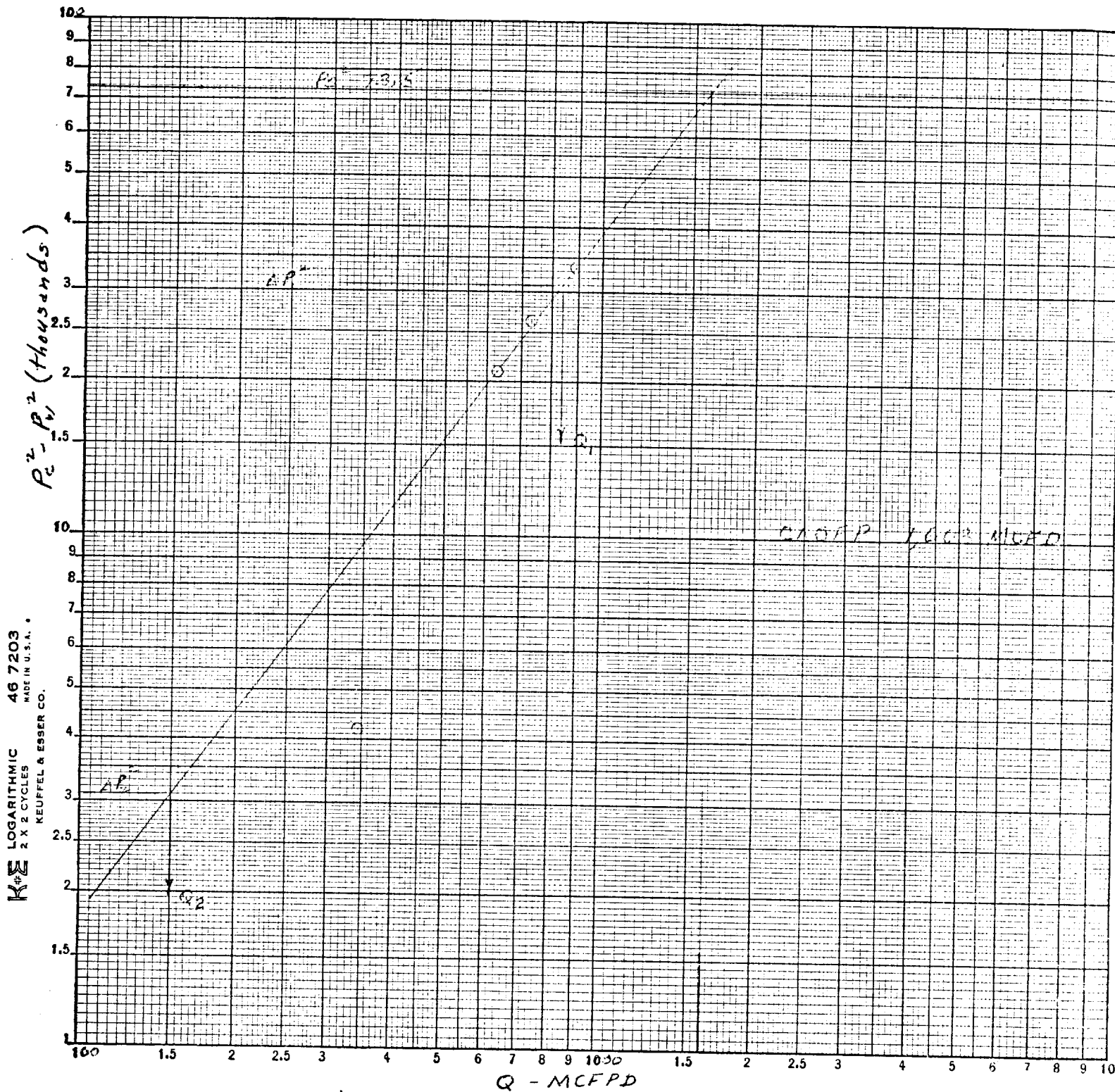
2nd Rate

	0
	4
	2
	x
	3
	3
	6

Tri

[illegible]

ATLANTIC RICHFIELD
 McDONALD STATE WN 23
 C- 15, T-22-S, R-36-E
 LEA COUNTY
 5-2-74



$$\begin{aligned} \Delta P_1^2 \quad P_c^2 - P_w^2 &= 31 \\ \Delta P_2^2 \quad P_c^2 - P_w^2 &= 3.1 \\ Q_1 &= 840 \text{ MCFD} \\ Q_2 &= 150 \text{ MCFD} \end{aligned}$$

$$\begin{aligned} \log Q_1 &= 2.924279 \\ \log Q_2 &= 2.176091 \\ \hline n &= 0.748188 \\ &= 0.748 \end{aligned}$$