

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

Form
Revised

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 5-18-78		JUN 27 1978	
Company Yates Petroleum Corporation						Connection El Paso Natural Gas Co.			
Pool Kennedy Farms <i>Atoka</i>				Formation Atoka		Unit O.G.C. ARTESIA, OFFICE			
Completion Date 12-20-77		Total Depth 8670' KB		Plug Back TD 8607' KB		Elevation 3375' KB		Farm or Lease Name Siegenthaler IS Co.	
Csq. Size 5½"	Wt. 17#	d 4.892	Set At 8647	Perforations: From 8194 To 8298 KB			Well No. 1		
Tbg. Size 2-3/8"	Wt. 4.7#	d 1.995	Set At 8341'	Perforations: From 8144 To 8145 KB			Unit I	Sec. 21	Twp. 17S
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Dual - gas - gas				Packer Set At 8347 & 8145'			County Eddy		
Producing Thru Tubing		Reservoir Temp. °F 140 @ 8250'		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2		State N. Mex.	
L 8240	H 8240	G _g 0.626	% CO ₂ 1.05	% N ₂ 0.39	% H ₂ S Nil	Prover	Meter Run 4	Taps Flanged	

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							2507	44			90 hrs
1.	4.026	x	1.500	643	10	65	2291	58			1 hr
2.				644	21	65	2175	65			1 hr
3.				646	37	66	2028	69			1 hr
4.				648	52	66	1913	72			1 hr
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	10.84	81.01	656.2	.9952	1.261	1.0604	1169
2.		117.48	657.2	.9952	1.261	1.0605	1695
3.		156.17	659.2	.9943	1.261	1.0606	2251
4.		185.42	661.2	.9943	1.261	1.0608	2673
5.							

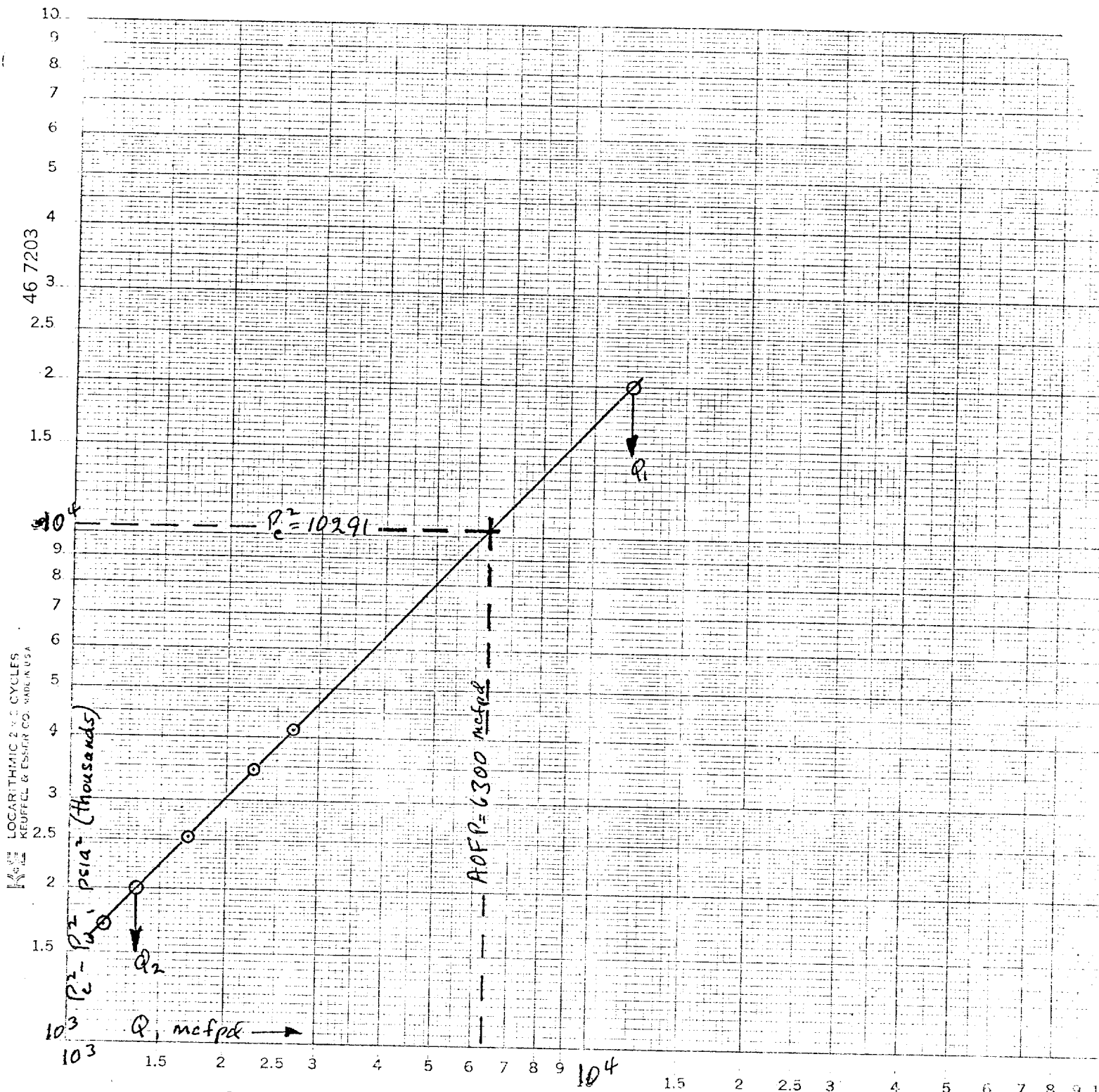
NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	102.16	Mcf/bbl.
1.	.973	525	1.436	.8893	A.P.I. Gravity of Liquid Hydrocarbons	53.8	Deq.
2.	.975	525	1.436	.8891	Specific Gravity Separator Gas	0.629	XXXXXXX
3.	.978	526	1.439	.8889	Specific Gravity Flowing Fluid	XXXXX	0.659
4.	.981	526	1.439	.8886	Critical Pressure	674	P.S.I.A. 673.5
5.					Critical Temperature	365.5	R 375.5

P _c 3208	P _c ² 10291	(1) $\frac{P_c^2}{P_e^2 - P_w^2} = 2.4876$	(2) $\left[\frac{P_c^2}{P_e^2 - P_w^2} \right]^n = 2.3572$
NO.	P _t ²	P _w	P _w ²
1			8590
2			7761
3			6826
4			6154
5			

Absolute Oper. Flow		6300	Mcf/d @ 15.025	Angle of Slope	46.75 deg	Slope, n	0.9409
---------------------	--	------	----------------	----------------	-----------	----------	--------

Remarks: Static Pressures by Bennett Wireline, flowing tubing pressures by DWT. Calculations work sheet C-122D attached	
---	--

Approved By Commission:	Conducted By: Bill Trembley, Jr.	Calculated By: Eddie Mahfood	Checked By:
-------------------------	-------------------------------------	---------------------------------	-------------



$$Q_1 = 11780 \text{ mcfpd}$$

$$Q_2 = 1350 \text{ mcfpd}$$

$$\log Q_1 = 4.0712$$

$$\log Q_2 = 3.1303$$

$$n = 0.9409$$