

EW 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 7-12-78		SEP 15 1978	
Company Yates Petroleum Corporation						Connection El Paso Natural Gas Company		O. C. C. ARTESIA, OFFICE	
Pool Northeast Avalon				Formation Atoka		Unit			
Completion Date 7-7-78		Total Depth 11400'		Plug Back TD 10763'		Elevation 3263' KB		Farm or Lease Name MWJ State "GW" Com	
Csg. Size slim hole	Wt. d	Set At	Perforations: From To		Well No. 1				
Thg. Size 2-7/8"	Wt. 6.4#	d 2.441	Set At 11326'	Perforations: From 10752 To 10756' KB		Unit K	Soc. 36	Twp. 20S	Rge. 27E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At None		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 161 @ 10750		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2		State New Mexico	
L 10745	H 10745	G _g 0.606	% CO ₂ 0.59	% N ₂ 2.39	% H ₂ S Nil	Prover	Meter Run 4"	Taps Flange	

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	Duration of Flow
SI							3485				
1.	4.026 x 0.375			692	16	90	2125	72			1 hour
2.				692	31	90	840	72			1 hour
3.											
4.											
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	.6670	106.22	705.2	.9723	1.285	1.0445	92
2		147.86	705.2	.9723	1.285	1.0445	129
3.							
4.							
5.							

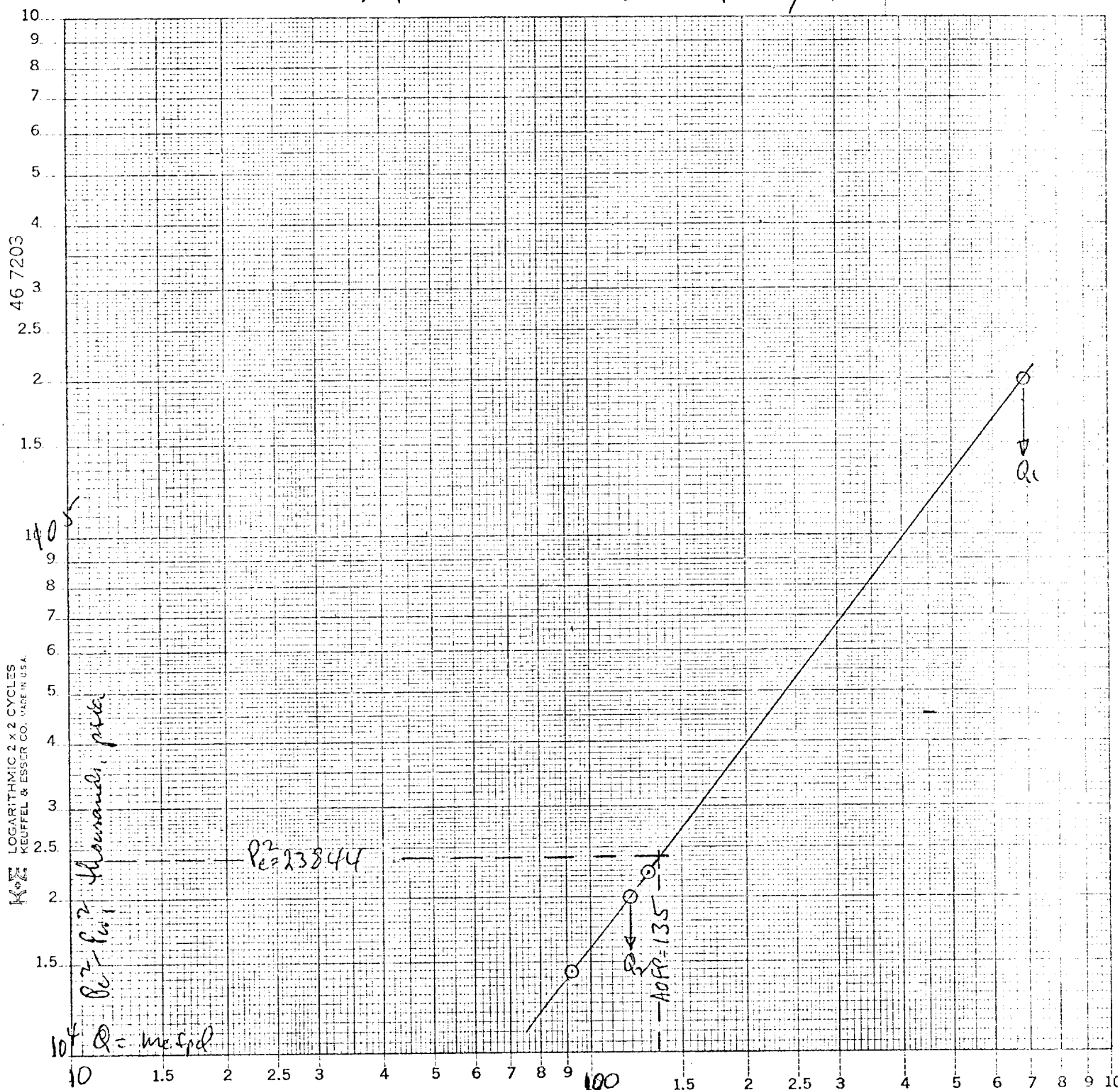
NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.	1.051	550	1.585	.9165	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.	1.051	550	1.585	.9165	Specific Gravity Separator Gas 0.606 XXXXXXXXXX
3.					Specific Gravity Flowing Fluid XXXXX
4.					Critical Pressure 671 P.S.I.A. P.S.I.A.
5.					Critical Temperature 347 R R

P _c 4883 P _c ² 23844				(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0641$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0486$	
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²			
1			9508	14336			
2			1437	22407			
3							
4							
5							

Absolute Open Flow 135 Mcfd @ 15.025				Angle of Slope @ 52° 38"		Slope, n 0.7634	
Remarks: Static pressures by Bennett Wireline. Flowing pressures by DWT.							
NOTE: Very tight - low volume well.							

Approved By Commission:	Conducted By: Ronnie Willis	Calculated By: Eddie M. Mahfood	Checked By:
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YPC - MWS State GW Cone #1
 K-36-20s-27E, Northeast Avalon Atolca, Early Co. N. Cal.



$$\begin{aligned} Q_1 &= 690 \text{ mcf/d} & \log Q_1 &= 2.8389 \\ Q_2 &= 119 \text{ mcf/d} & \log Q_2 &= 2.0755 \\ & & n &= 0.7634 \end{aligned}$$

COMPANY Water Ret. Corp LEASE MWIS State 460 WELL NO. 1 DATE 7-12-78

LOCATION: Unit K Section 36 Township 20 S Range 27 E

10745 H 10745 LN 1000 G 0.606 + 1001 % CO₂ 0.59 % N₂ 2.39 % H₂S N/I

2.441 F_i 1010763 GH 9435 P_{cr} 671 T_{cr} 342

LINE	1	2							
1 Q _m	51	1	2				1		
2 T _w (W.H. °R)	621	620	619				692		
3 T _r (B.H. °R)	532	532	533						
4 T = (T _w + T _r) / 2	576.5	576	576				576		
5 Z (Est.)	1920	.839	.903				.840		
6 T ₂	530.33	482.26	520.13				483.86		
7 GH/T ₂	17.790	10.523	18.140				10.500		
8 e ^s (Table XIV)	1.9456	2.080	1.9943				2.0799		
9 1 - e ^s (Table XIV)		0.519	0.4935				0.5187		
10 P _i	3498	2138	853				2138		
11 P _i 2/1000		4591.64	722.61				4591.64		
12 F ₁ (Table XV) X 10 ²⁵ K ₁	1.66711	.72213	.68024				1.73126		
13 F ₁ = F ₁ T ₂		51201	5.598				512076		
14 C ₂ Q _m		0.48	0.722				0.48		
15 L/H (F ₁ Q _m) ²		0.23	0.522				0.23		
16 F _w = L/H (F ₁ Q _m) ² (1 - e ^{-s})		0.12	0.26				0.12		
17 P _w 2 = P _i 2 + F _w		4571.16	727.87				4571.16		
18 P _s 2 = e ^s P _w 2		9508	1432				94975		
19 P _s	4883	3083.5	1198.8				3081.8		
20 P = (P _i + P _s) / 2	4190.5	2610.8	1025.9				2609.4		
21 F _r = (P/P _{cr})	6.205	3.890	1.529				3.890		
22 T _r = (T/T _{cr})	1.661	1.660	1.660				1.660		
23 Z (Table XI)	.920	0.840	.903				0.840		