

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

Form C-122
Revised 9-1-65

RECEIVED

C/SF
C-122

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 3-4-82		APR 20 1982			
Company Yates Petroleum Corporation ✓				Connection Transwestern Pipeline Co		O. C. D. ARTESIA, OFFICE			
Pool Wildcat Atoka				Formation Atoka		Unit			
Completion Date 4-29-81		Total Depth 8850		Plug Back To 8538 KB		8334 KB		Farm or Lease Name Amoco QT Federal	
Case Size 4 1/2	Wt. 11.6#	d 4.000	Set At 8805 KB	Perforations: From 8390 To 8436 KB		Well No. 1			
Fig. Size 2 3/8"	Wt. 4.7#	d 1.995	Set At 8345 KB	Perforations: From To		Unit F	Sec. 29	Twp. 19s	Rye. 24e
Type Well - Single - Drdhead - G.G. or G.O. Multiple single				Packer Set At 8345		County Eddy			
Producing Thru Tubing		Reservoir Temp. °F 144 @ 8400		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2		State New Mexico	
L 8413	H 8413	C _g 0.610	% CO ₂ 0.39	% H ₂ 1.05	% H ₂ S N.7	Prover --	Meter Run 2"	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	
51							2728	72			Days
1.	2.067	X	0.375	260	15	50	1925	77			48 hrs
2.	2.067	X	0.375	490	17	45	1640	78			48 hrs
3.	2.067	X	0.375	430	33	66	775	78			24 hrs
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 _{sp}	Rate of Flow Q, Mcfd
1	0.6689	64.02	273.2	1.010	1.281	1.026	57
2	0.6689	92.49	503.2	1.015	1.281	1.050	84
3	0.6689	120.94	443.2	0.9943	1.281	1.038	107
4							
5							

NO.	P _t	Temp. °R	T _t	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	0.406	510	1.421	.9502			0.609	XXXXXXX	673	359
2	0.748	505	1.407	.9067				XXXXX	759	390
3	0.659	526	1.465	.9278						
4										
5										

P _c 3435.2 P _c ² 11801				$(1) \frac{P_c^2}{P_t^2 - P_w^2} = 1.0839$		$(2) \left[\frac{P_c^2}{P_t^2 - P_w^2} \right]^n = 1.0555$	
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²			
1			5872	4929			
2			4226	7575			
3			913	10888			
4							
5							

$ADP = C \left[\frac{P_c^2}{P_t^2 - P_w^2} \right]^n = 113$			
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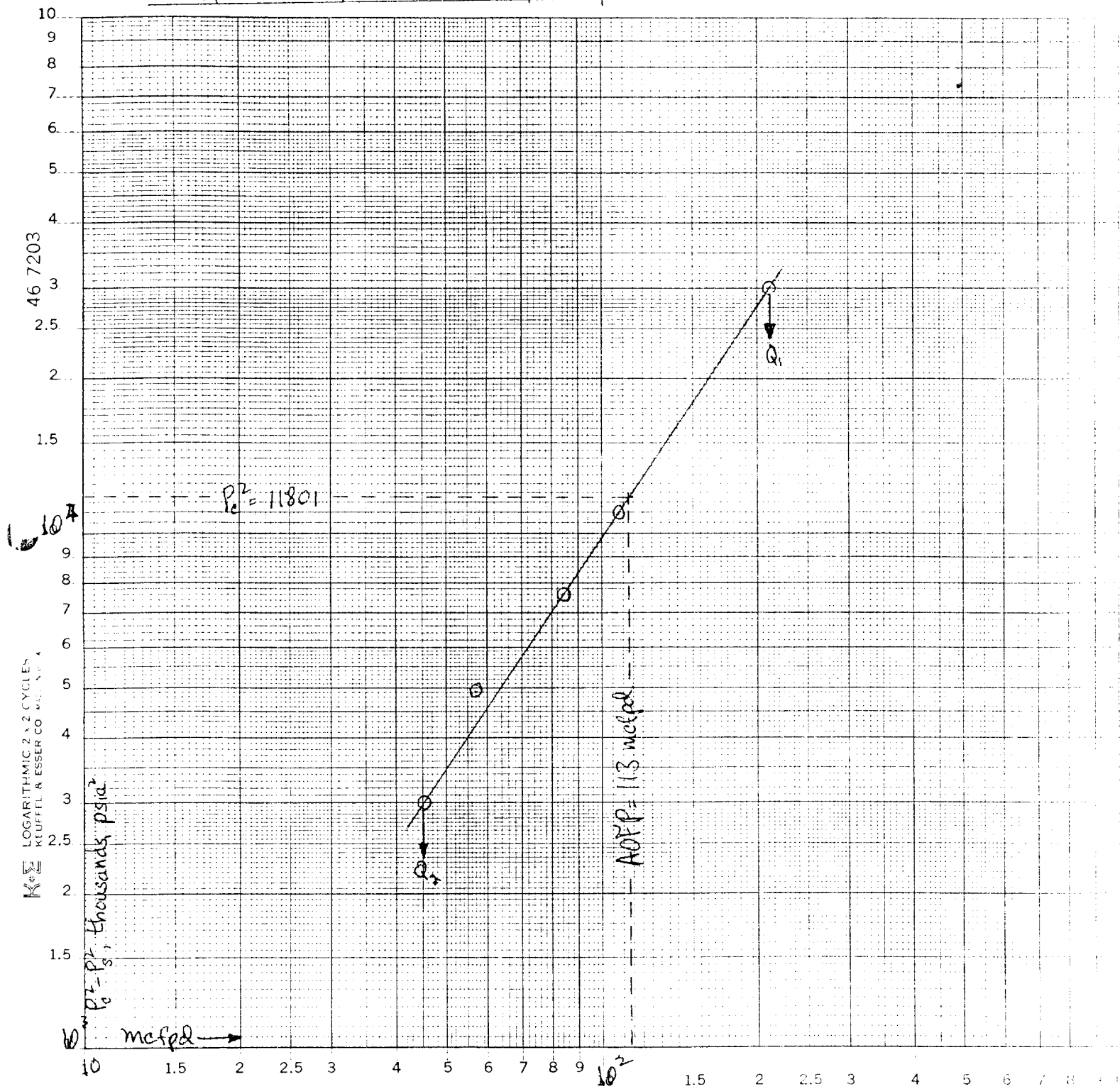
Absolute Open Flow	113	Mcf/d @ 15.025	Angle of Slope θ	56.1 deg	Slope, n	0.671
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Remarks: Static pressures by Bennett Wireline, flowing pressures by DWT. Calculations worksheet C122D. Note: Well appeared to be loading up was unable to get 4th rate

Approved By Commission:	Conducted By: Danny Matthews	Calculated By: Eddie Mahfood	Checked By:
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YPC- Amoco QT Federal No 1

F-29-19S-24E, Wilcox Atoka, Eddy Co, N.M.



$$Q_1 = 211 \text{ mcfpd}$$

$$\log Q_1 = 2.3243$$

$$Q_2 = 45 \text{ mcfpd}$$

$$\log Q_2 = 1.6533$$

$$n = 0.6710$$

C-122D
Approved 9-1-65

DATE 3-4-82

1.1

TCF 340 TABLE IX & X

LINE	51	1	2	3	4
1 CM	-	0.007	0.004	0.000	0.000
2 $T_1 = T_{in} - P_1$	539	539	539	539	539
3 $T_2 = T_{in} - P_2$	604	603	602	602	602
4 $T_3 = T_{in} - P_3$	566	570	570	570	570
5 $T_4 = T_{in} - P_4$	7506	756	775	0.875	0.875
6 $T_5 = T_{in} - P_5$	112634	430.92	441.75	500.075	500.075
7 $T_6 = T_{in} - P_6$	1200373	114694	116174	102604	102604
8 $T_7 = T_{in} - P_7$	1.57044	1.5630	1.5600	1.4603	1.4603
9 $T_8 = T_{in} - P_8$		0.0002	0.0002	0.0002	0.0002
10 $T_9 = T_{in} - P_9$	2741.2	1932.2	1653.2	782.2	782.2
11 $T_{10} = T_{in} - P_{10}$	7514.2	5736.0	2733.07	621.26	621.26
12 $S = 0.0375 \frac{3H}{T_2}$	0.45139	0.04000	0.43063	0.50000	0.50000
13 $P_2 = P_1 - T_2$		6.9400	7.1142	2.0349	2.0349
14 $P_3 = Q_1$		0.096	0.097	0.000	0.000
15 $LH (P_2 - Q_2) / 2$		0.157	0.000	0.743	0.743
16 $P_4 = LH (P_3 - Q_3) / 2$		0.00	0.13	0.24	0.24
17 $P_5 = P_4 + P_6$		3756.60	2733.20	621.50	621.50
18 $P_6 = 2 = 0.0 P_5$	11801.0	5271.7	4225.0	913.2	913.2
19 P_7	3435.2	2423.2	2050.6	455.0	455.0
20 $P = (\frac{P_1 + P_5}{2})$	3030.2	2180.0	1854.4	491.4	491.4
21 $P_T = (P/P_{cr})$	4.69	2.373	2.013	1.144	1.144
22 $T_T = (T/T_{cr})$	1.436	1.000	0.800	0.400	0.400
23 Z (Table XI)	1.000	1.000	1.000	1.000	1.000

$\frac{d}{dt} \left(\frac{\partial L}{\partial v} \right) = \frac{\partial L}{\partial x}$

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