

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

Form C-122

2151
File

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 06/29/1994		JAN 06 '95			
Company Yates Petroleum Corp				Connection Yates Petroleum Corp				Unit O.C.D. ARTESIA OFFICE	
Pool Abo				Formation Fecos Slope		Farm or Lease Name Unruh AFF Federal Com			
Completion Date 06/25/1994		Total Depth 4400		Plug Back TD 4324		Elevation 3512		Well No. 1	
Csg Size 4.500	Wt 10.500	d 4.052	Set At 4400	Perforations From 3802 To 3902		Unit B		Sec. 20	Twp 10S
Tbg Size 2.875	Wt 6.500	d 2.441	Set At 3752	Perforations From 3802 To 3902		Rge 25E			
Type Well Single				Packer Set At 3752		County Chaves			
Producing Thru		Resv. Temp °F 96 @ 3730		Mean Temp °F 62		Baro. Press. - Pa 13.2		State New Mexico	
Tubing L 3752		H 3752		Gg 0.650	%CO ₂ 0.026	%N ₂ 6.879	%H ₂ S 0.000	Prover 0.000	Meter Run 2.000
								Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Drift hw	Temp °F	Press p.s.i.g.	Temp °F	Press p.s.i.g.		Temp °F
SI.	0.000	x	0.000	0	0.0	0	350	0			0
1.	2.067	x	1.375	170	3.0	98	325	62			24
2.	2.067	x	1.375	141	13.3	97	273	62			24
3.	2.067	x	1.375	170	30.0	100	222	62			24
4.	2.067	x	1.375	170	44.0	99	170	62			24
5.		x									

RATE OF FLOW CALCULATIONS							
NO	Coefficient (24 Hour)	\sqrt{hwPm}	Pressure Pm	Flow Temp Factor Ft	Gravity Factor Fg	Super Compress. Factor Fpv	Rate of Flow Q, Mcfd
1	10.200	23.4	183.2	0.9653	1.240	1.012	290
2	10.200	45.4	154.6	0.9662	1.240	1.010	560
3	10.200	74.1	183.2	0.9636	1.240	1.012	914
4	10.200	89.8	183.2	0.9645	1.240	1.012	1109
5							

NO	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	0.28	558	1.58	0.976	0	
2	0.23	557	1.58	0.980	0.000	
3	0.28	560	1.58	0.977	0.650	XXXXXXXXXX
4	0.28	559	1.58	0.977	0.650	0.650
5						

NO	Pc	Pw	Pw'	Pc ² - Pw ²	(1) $\frac{Pc^2}{Pc^2 - Pw^2} = 1.817$	(2) $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1.609$
1	114.4	338.8	114.8	17.1		
2	81.9	288.8	83.4	48.5		
3	55.3	243.6	59.3	72.6		
4	33.6	198.8	39.5	92.4		
5						

Absolute Open Flow	1471	Mcf/d @ 15.025	Angle of Slope	0	39	Slope n	0.796
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Remarks

Approved By Commission	Conducted By David Weaver	Calculated By Andrea Carpenter	Checked By
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WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

DATE 06/29/1994

COMPANY Yates Petroleum Corp LEASE Unruh AFF Federal Com WELL NO. 1

LOCATION: Unit B Section 20 Township 10S Range 25E

L 3752 H 3752 L/H 1.000 G 0.650 %CO₂ 0.026 %N₂ 6.879 %H₂S 0.000
 d 2.441 Fr 0.010495 GH 2438.8 Pcr 658.9 Tcr 353.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.290	0.560	0.914	1.109	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	556	556	556	556	
4 T = (Tw+Ts) / 2	538.8	538.8	538.8	538.8	
5 Z (Est.)	0.949	0.957	0.964	0.971	
6 TZ	511.4	515.4	519.2	523.1	
7 GH / TZ	4.769	4.732	4.697	4.662	
8 e ^s (Table XIV)	1.196	1.194	1.193	1.191	
9 1-e ^{-s} (Table XIV)	0.164	0.163	0.161	0.160	
10 Pt	338.2	286.2	235.2	183.2	
11 Pt ² / 1000	114.4	81.9	55.3	33.6	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	5.367	5.409	5.449	5.490	
14 FcQm	1.55	3.03	4.98	6.09	
15 L / H(FcQm) ²	2.4	9.2	24.8	37.0	
16 Fw = L / H(FcQm) ² (1-e ^{-s})	0.40	1.49	4.01	5.94	
17 Pw ² = Pt ² +Fw	114.8	83.4	59.3	39.5	
18 Ps ² = e ^s Pw ²	137.3	99.6	70.8	47.1	
19 Ps	370.5	315.6	266.0	216.9	
20 P = (Pt+Ps) / 2	354.3	300.9	250.6	200.1	
21 Pr = (P / Pcr)	0.54	0.46	0.38	0.30	
22 Tr = (T / Tcr)	1.53	1.53	1.53	1.53	
23 Z (Table XI)	0.949	0.957	0.964	0.971	

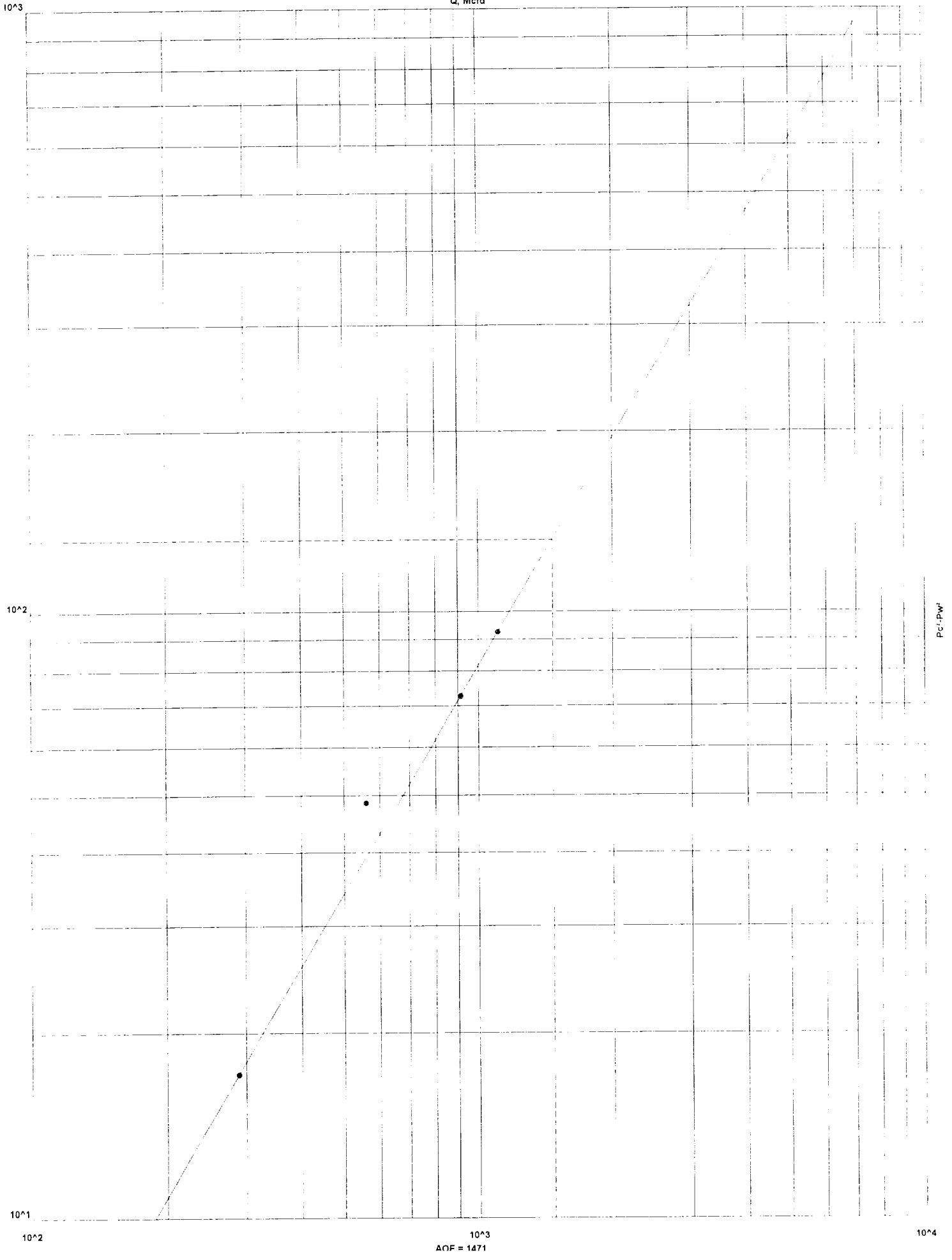
Company
Well
Location

Yates Petroleum Corp
Unruh AFF Federal Com #1
B 20-10S-25E

County
Date

Chaves
06-29-1994

Q, Mcfd



P_{wf}, psi

10² 10³ 10⁴
AQF = 1471