

NORTH MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR C... WELL

Form C-122

CLSF
File

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 12/27/1993			
Company Yates Petroleum Corp				Connection Amoco				DEC 27 '94	
Pool Morrow				Formation Indian Basin				Unit O. C. D. ARTESIA, OFFICE	
Completion Date 12/1/1992		Total Depth 10290		Plug Back TD 10170		Elevation 4201		Farm or Lease Name Hickory ALV Federal	
Csg Size 5.500	Wt 17.000	d 4.892	Set At 10280	Perforations: From 9886 To 9898		Well No 1			
Tbg Size 2.875	Wt 6.500	d 2.441	Set At 9812	Perforations: From 9886 To 9898		Unit F	Sec. 17	Twp. 22S	Rge. 24E
Type Well Single				Packer Set At 9812		County EDDY			
Producing Thru Tubing		Resv. Temp. °F 157 @ 9892		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State NM	
L 10280	H 10280	Gg 0.727	%CO ₂ 0.873	%N ₂ 0.656	%H ₂ S 1.261	Prover 0.000	Meter Run 3.000	Taps Flange	

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff 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	1635	0			0
1	3.068	x	1.750	921	1.3	45	1500	62			24
2	3.068	x	1.750	649	5.3	44	1245	62			24
3	3.068	x	1.750	735	11.0	41	990	62			24
4	3.068	x	1.750	735	15.0	40	735	62			24
5		x									

RATE OF FLOW CALCULATIONS							
NO	Coefficient (24 Hour)	$\sqrt{\text{hwPm}}$	Pressure Pm	Flow Temp Factor Ft	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1.	15.610	34.2	934.7	1.0148	1.173	1.152	733
2	15.610	59.2	662.2	1.0158	1.173	1.102	1213
3	15.610	90.7	748.2	1.0188	1.173	1.121	1896
4	15.610	105.9	748.2	1.0198	1.173	1.122	2219
5							

NO	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio 0	Mcf/bbl
					A.P.I. Gravity of Liquid Hydrocarbons 0.000	Deg.
1	1.38	505	1.27	0.753	Specific Gravity Separator Gas 0.727	XXXXXXXXXX
2	0.98	504	1.27	0.824	Specific Gravity Flowing Fluid XXXXXXXXXX	0.727
3	1.10	501	1.26	0.796	Critical Pressure 678	P.S.I.A. 678
4	1.10	500	1.26	0.795	Critical Temperature 396	°R 396
5						

Pc	1648.2	Pc'	2716.6
NO	Pt'	Pw	Pw'
1	2289.8	1514.9	2294.9
2	1583.1	1264.1	1597.8
3	1006.4	1022.1	1044.6
4	559.8	784.6	615.6
5			

(1) $\frac{Pc^2}{Pc^2 - Pw^2} = 1.625$		(2) $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1.398$	
AOF = Q $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 2651$			

Absolute Open Flow 2651	Mcf/d @ 15.025	Angle of Slope 0 35	Slope, n 0.690
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Remarks			

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

DATE 12/27/1993

COMPANY Yates Petroleum Corp LEASE Hickory ALV Federal WELL NO. 1

LOCATION: Unit F Section 17 Township 22S Range 24E

L 10280 H 10280 L/H 1.000 G 0.727 %CO₂ 0.873 %N₂ 0.656 %H₂S 1.261

d 2.441 Fr 0.010495 GH 7473.6 Pcr 678.4 Tcr 396.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.733	1.213	1.896	2.219	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	617	617	617	617	
4 T = (Tw+Ts) / 2	569.2	569.2	569.2	569.2	
5 Z (Est.)	0.746	0.772	0.808	0.850	
6 TZ	424.6	439.4	459.8	483.9	
7 GH / TZ	17.603	17.007	16.253	15.444	
8 e ^{As} (Table XIV)	1.935	1.892	1.840	1.785	
9 1-e ^{As} (Table XIV)	0.483	0.471	0.457	0.440	
10 Pt	1513.2	1258.2	1003.2	748.2	
11 Pt ² / 1000	2289.8	1583.1	1006.4	559.8	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	4.456	4.612	4.826	5.079	
14 FcQm	3.26	5.60	9.15	11.27	
15 L / H(FcQm) ²	10.7	31.3	83.7	127.0	
16 Fw = L / H(FcQm) ² (1-e ^{As})	5.15	14.77	38.19	55.82	
17 Pw ² = Pt ² +Fw	2294.9	1597.8	1044.6	615.6	
18 Ps ² = e ^{As} Pw ²	4439.8	3023.3	1922.1	1098.6	
19 Ps	2107.1	1738.8	1386.4	1048.1	
20 P = (Pt+Ps) / 2	1810.1	1498.5	1194.8	898.2	
21 Pr = (P / Pcr)	2.67	2.21	1.76	1.32	
22 Tr = (T / Tcr)	1.44	1.44	1.44	1.44	
23 Z (Table XI)	0.746	0.772	0.808	0.850	

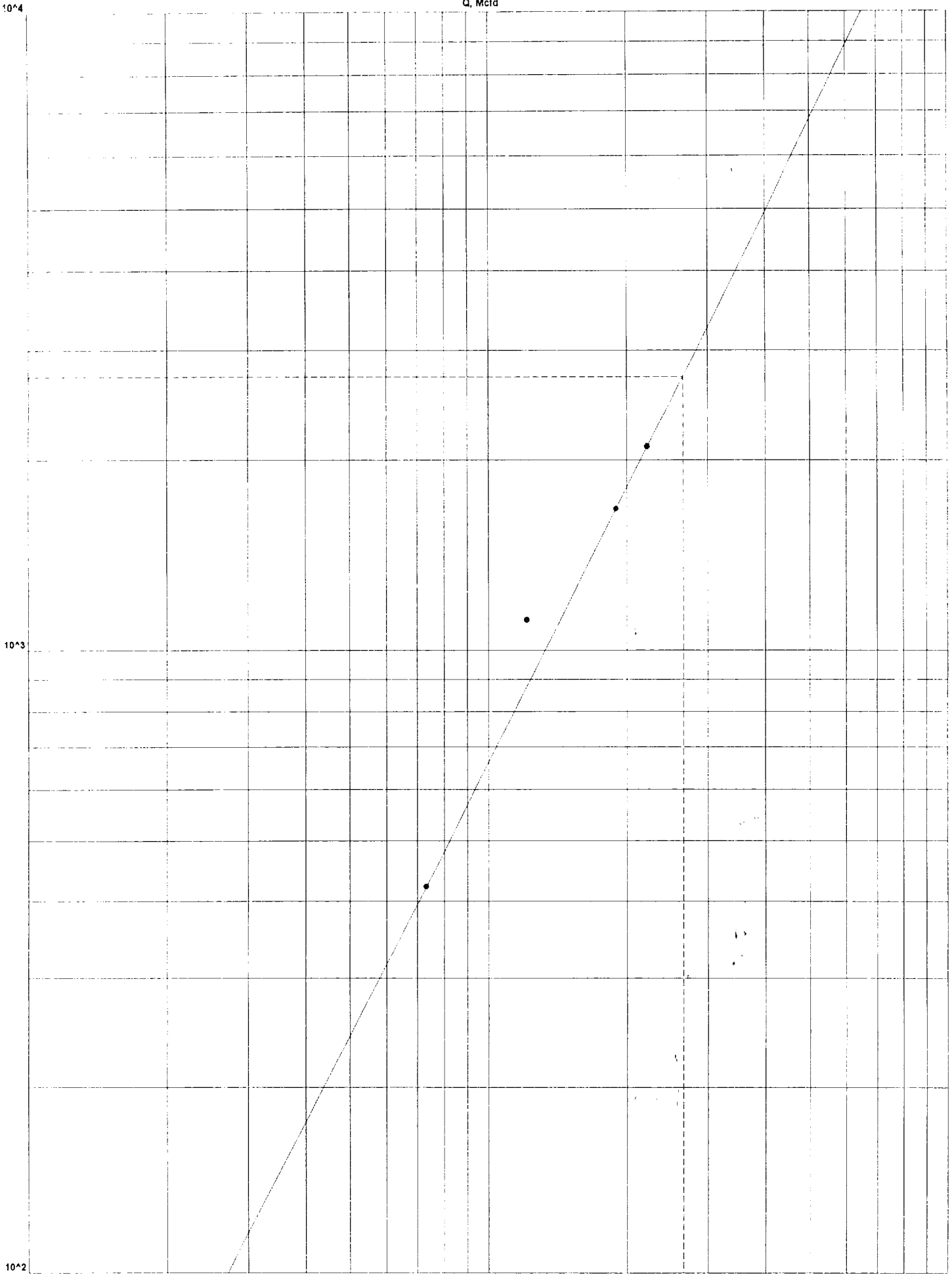
Company
Well
Location

Yates Petroleum Corp
Hickory ALV Federal #1
F 17-22S-24E

County
Date

EDDY
-27-1993

Q, Mcfd



Pwf, psi