

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

DATE 07/01/1993

COMPANY Yates Petroleum Corp LEASE Cannon XF WELL NO. 1  
 LOCATION: Unit H Section 17 Township 10S Range 25E  
 L 3550 H 3550 L/H 1.000 G 0.650 %CO<sub>2</sub> 0.037 %N<sub>2</sub> 5.095 %H<sub>2</sub>S 0.000  
 d 1.995 Fr 0.017777 GH 2308.9 Pcr 661.9 Tcr 358.3

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.637	1.119	1.297	1.595	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	564	564	564	564	
4 T = (Tw+Ts) / 2	542.7	542.7	542.7	542.7	
5 Z (Est.)	0.887	0.912	0.938	0.963	
6 TZ	481.4	495.1	509.2	522.6	
7 GH / TZ	4.797	4.664	4.534	4.418	
8 e <sup>As</sup> (Table XIV)	1.197	1.191	1.185	1.180	
9 1-e <sup>-s</sup> (Table XIV)	0.165	0.160	0.156	0.153	
10 Pt	763.2	576.2	390.2	203.2	
11 Pt <sup>2</sup> / 1000	582.5	332.0	152.3	41.3	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.557	8.801	9.052	9.291	
14 FcQm	5.45	9.85	11.74	14.81	
15 L / H(FcQm) <sup>2</sup>	29.7	97.1	137.9	219.5	
16 Fw = L / H(FcQm) <sup>2</sup> (1-e <sup>-s</sup> )	4.89	15.58	21.56	33.50	
17 Pw <sup>2</sup> = Pt <sup>2</sup> +Fw	587.4	347.6	173.8	74.8	
18 Ps <sup>2</sup> = e <sup>As</sup> Pw <sup>2</sup>	703.1	414.0	206.0	88.3	
19 Ps	838.5	643.4	453.9	297.1	
20 P = (Pt+Ps) / 2	800.8	609.8	422.1	250.2	
21 Pr = (P / Pcr)	1.21	0.92	0.64	0.38	
22 Tr = (T / Tcr)	1.51	1.51	1.51	1.51	
23 Z (Table XI)	0.887	0.912	0.938	0.963	