

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

DATE 10/26/1994

COMPANY Yates Petroleum Corp LEASE Dee OQ State WELL NO. 5

LOCATION: Unit K Section 32 Township 5S Range 25E

L 3634 H 3634 L/H 1.000 G 0.650 %CO₂ 0.037 %N₂ 5.095 %H₂S 0.000

d 1.995 Fr 0.017777 GH 2363.6 Pcr 661.9 Tcr 358.3

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.254	1.757	1.993	2.456	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	563	563	563	563	
4 T = (Tw+Ts) / 2	542.2	542.2	542.2	542.2	
5 Z (Est.)	0.891	0.899	0.909	0.917	
6 TZ	482.8	487.6	492.6	497.0	
7 GH / TZ	4.895	4.847	4.798	4.756	
8 e ^Λ s(Table XIV)	1.201	1.199	1.197	1.195	
9 1-e ^Λ -s(Table XIV)	0.168	0.166	0.165	0.163	
10 Pt	728.2	656.2	585.2	513.2	
11 Pt ² / 1000	530.3	430.6	342.5	263.4	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.583	8.669	8.756	8.835	
14 FcQm	10.77	15.23	17.45	21.70	
15 L / H(FcQm) ²	115.9	232.0	304.6	471.0	
16 Fw = L / H(FcQm) ² (1-e ^Λ -s)	19.45	38.56	50.17	76.93	
17 Pw ² = Pt ² +Fw	549.7	469.2	392.6	340.3	
18 Ps ² = e ^Λ sPw ²	660.5	562.7	470.0	406.7	
19 Ps	812.7	750.1	685.6	637.8	
20 P = (Pt+Ps) / 2	770.4	703.2	635.4	575.5	
21 Pr = (P / Pcr)	1.16	1.06	0.96	0.87	
22 Tr = (T / Tcr)	1.51	1.51	1.51	1.51	
23 Z (Table XI)	0.891	0.899	0.909	0.917	