

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

DATE 01/01/1992

COMPANY Yates Petroleum Corp LEASE North Carlsbad OK Com WELL NO. 1

LOCATION: Unit B Section 26 Township 21S Range 26E

L 10488 H 10488 L/H 1.000 G 0.629 %CO₂ 0.510 %N₂ 0.336 %H₂S 0.000

d 1.995 Fr 0.017777 GH 6601.1 Pcr 672.6 Tcr 363.9

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.275	0.359	0.479	0.542	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	619	619	619	619	
4 T = (Tw+Ts) / 2	570.2	570.2	570.2	570.2	
5 Z (Est.)	0.895	0.905	0.916	0.927	
6 TZ	510.2	516.1	522.1	528.3	
7 GH / TZ	12.939	12.791	12.642	12.495	
8 e ^s (Table XIV)	1.624	1.616	1.607	1.598	
9 1-e ^{-s} (Table XIV)	0.384	0.381	0.378	0.374	
10 Pt	763.2	680.2	596.2	513.2	
11 Pt ² / 1000	582.5	462.7	355.5	263.4	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	9.069	9.174	9.282	9.392	
14 FcQm	2.50	3.29	4.45	5.09	
15 L / H(FcQm) ²	6.2	10.8	19.8	25.9	
16 Fw = L / H(FcQm) ² (1-e ^{-s})	2.40	4.13	7.47	9.70	
17 Pw ² = Pt ² +Fw	584.9	466.8	362.9	273.1	
18 Ps ² = e ^s Pw ²	950.1	754.1	583.1	436.3	
19 Ps	974.7	868.4	763.6	660.5	
20 P = (Pt+Ps) / 2	869.0	774.3	679.9	586.9	
21 Pr = (P / Pcr)	1.29	1.15	1.01	0.87	
22 Tr = (T / Tcr)	1.57	1.57	1.57	1.57	
23 Z (Table XI)	0.895	0.905	0.916	0.927	