

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

DATE 12/14/1992

COMPANY Yates Petroleum Corp LEASE Geneva UI WELL NO. 3

LOCATION: Unit E Section 21 Township 6S Range 25E

L 3528 H 3528 L/H 1.000 G 0.648 %CO₂ 0.028 %N₂ 5.006 %H₂S 0.000

d 1.995 Fr 0.017777 GH 2286.1 Pcr 662.1 Tcr 357.8

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.330	0.421	0.571	0.654	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	567	567	567	567	
4 T = (Tw+Ts) / 2	544.2	544.2	544.2	544.2	
5 Z (Est.)	0.900	0.908	0.916	0.925	
6 TZ	489.6	494.1	498.6	503.1	
7 GH / TZ	4.669	4.627	4.586	4.544	
8 e ^s (Table XIV)	1.191	1.189	1.188	1.186	
9 1-e ^{-s} (Table XIV)	0.161	0.159	0.158	0.157	
10 Pt	684.0	624.0	564.0	504.0	
11 Pt ² / 1000	467.9	389.4	318.1	254.0	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.704	8.783	8.863	8.944	
14 FcQm	2.87	3.70	5.06	5.85	
15 L / H(FcQm) ²	8.2	13.7	25.6	34.2	
16 Fw = L / H(FcQm) ² (1-e ^{-s})	1.32	2.18	4.05	5.36	
17 Pw ² = Pt ² +Fw	469.2	391.6	322.1	259.4	
18 Ps ² = e ^s Pw ²	559.0	465.7	382.6	307.6	
19 Ps	747.6	682.5	618.5	554.6	
20 P = (Pt+Ps) / 2	715.8	653.2	591.3	529.3	
21 Pr = (P / Pcr)	1.08	0.99	0.89	0.80	
22 Tr = (T / Tcr)	1.52	1.52	1.52	1.52	
23 Z (Table XI)	0.900	0.908	0.916	0.925	