

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

DATE 01/01/1992

COMPANY Yates Petroleum Corp LEASE South Avalon MA Federal WELL NO. 1

LOCATION: Unit I Section 14 Township 21S Range 26E

L 10490 H 10490 L/H 1.000 G 0.743 %CO₂ 0.182 %N₂ 5.060 %H₂S 0.000

d 2.441 Fr 0.010495 GH 7794.1 Pcr 659.3 Tcr 388.7

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.055	0.071	0.078	0.095	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	670	670	670	670	
4 T = (Tw+Ts) / 2	595.7	595.7	595.7	595.7	
5 Z (Est.)	0.913	0.917	0.921	0.926	
6 TZ	543.6	546.2	548.8	551.4	
7 GH / TZ	14.337	14.271	14.202	14.136	
8 e ^{As} (Table XIV)	1.712	1.708	1.704	1.699	
9 1-e ^{As} (Table XIV)	0.416	0.415	0.413	0.411	
10 Pt	549.0	521.0	492.0	464.0	
11 Pt ² / 1000	301.4	271.4	242.1	215.3	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	5.705	5.732	5.760	5.786	
14 FcQm	0.31	0.41	0.45	0.55	
15 L / H(FcQm) ²	0.1	0.2	0.2	0.3	
16 Fw = L / H(FcQm) ² (1-e ^{As})	0.04	0.07	0.08	0.13	
17 Pw ² = Pt ² +Fw	301.4	271.5	242.1	215.4	
18 Ps ² = e ^{As} Pw ²	516.1	463.8	412.5	366.0	
19 Ps	718.4	681.0	642.3	605.0	
20 P = (Pt+Ps) / 2	633.7	601.0	567.1	534.5	
21 Pr = (P / Pcr)	0.96	0.91	0.86	0.81	
22 Tr = (T / Tcr)	1.53	1.53	1.53	1.53	
23 Z (Table XI)	0.913	0.917	0.921	0.926	