

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

Adopted 9-1-65

DATE 1/20/83

COMPANY Yates Petroleum Corporation LEASE Benson Deep Unit WELL NO. 2

LOCATION: Unit E Section 34 Township 18S Range 30E

L 11744.0 H 11744.0 L/H 1.000 G .784 %CO₂ .58 %H₂ .60 %H₂S 0.00

d 2.441 Fr .010495 GH 9204.2 Pcr 667.1 Tcr 414.0

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.639	2.002	2.265	2.476	0.000
2 Tw(W.H.%R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.%R)	640.0	640.0	640.0	640.0	0.0
4 T=(Tw+Ts)/2	581.0	581.0	581.0	581.0	0.0
5 Z(Est.)	.798	.789	.782	.770	0.000
6 TZ	463.7	458.7	454.1	447.5	0.0
7 GH/TZ	19.848	20.068	20.271	20.569	0.000
8 e ^{-s} (Table XIV)	2.105	2.123	2.139	2.163	0.000
9 1-e ^{-s} (Table XIV)	.525	.529	.532	.538	0.000
10 Pt	2986.2	2903.2	2826.2	2713.2	0.0
11 Pt ² /1000	8917.4	8428.6	7987.4	7361.5	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	4.866	4.813	4.765	4.696	0.000
14 FcQm	7.977	9.632	10.792	11.627	0.000
15 L/H(FcQm) ²	63.637	92.784	116.462	135.194	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	33.409	49.074	62.005	72.688	0.000
17 Pw ² =Pt ² +Fw	8950.8	8477.6	8049.4	7434.1	0.0
18 Ps ² =e ^{-s} Pw ²	18843.8	17995.7	17214.4	16079.2	0.0
19 Ps	4340.9	4242.1	4149.0	4009.9	0.0
20 P=(Pt+Ps)/2	3663.6	3572.7	3487.6	3361.6	0.0
21 Pr=(P/Pcr)	5.49	5.36	5.23	5.04	0.00
22 Tr=(T/Tcr)	1.40	1.40	1.40	1.40	0.00
23 Z(Table XI)	.798	.789	.782	.770	0.000