

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

Adopted 9-1-65

DATE 10/24/90

COMPANY Yates Petroleum Corporation LEASE Marathon AGI State WELL NO. 1

LOCATION: Unit A Section 33 Township 17S Range 24E

L 7563.0 H 7563.0 L/H 1.000 G .643 %CO2 .04 %N2 .85 %H2S 0.00

d 1.995 Fr .017777 GH 4863.0 Pcr 669.2 Tcr 367.7

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.199	.244	.265	.284	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	575.0	575.0	575.0	575.0	0.0
4 T=(Tw+Ts)/2	548.5	548.5	548.5	548.5	0.0
5 Z(Est.)	.828	.853	.856	.885	0.000
6 TZ	454.3	467.9	469.3	485.7	0.0
7 GH/TZ	10.704	10.394	10.363	10.013	0.000
8 e ^s (Table XIV)	1.494	1.477	1.475	1.456	0.000
9 1-e ^{-s} (Table XIV)	.331	.323	.322	.313	0.000
10 Pt	1113.2	929.2	911.2	710.2	0.0
11 Pt ² /1000	1239.2	863.4	830.3	504.4	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.077	8.318	8.342	8.634	0.000
14 FcQm	1.611	2.033	2.210	2.455	0.000
15 L/H(FcQm) ²	2.594	4.131	4.886	6.025	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.858	1.333	1.573	1.886	0.000
17 Pw ² =Pt ² +Fw	1240.1	864.7	831.9	506.3	0.0
18 Ps ² =e ^s Pw ²	1852.5	1276.9	1226.9	737.0	0.0
19 Ps	1361.1	1130.0	1107.7	858.5	0.0
20 P=(Pt+Ps)/2	1237.1	1029.6	1009.4	784.3	0.0
21 Pr=(P/Pcr)	1.85	1.54	1.51	1.17	0.00
22 Tr=(T/Tcr)	1.49	1.49	1.49	1.49	0.00
23 Z(Table XI)	.828	.853	.856	.885	0.000