

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

Adopted 9-1-65

DATE 2/16/83

COMPANY Yates Petroleum Corporation LEASE Smernoff "NL" State WELL NO. 2

LOCATION: Unit J Section 2 Township 5S Range 24E

L 3526.0 H 3526.0 L/H 1.000 G .637 %CO₂ .06 %N₂ 6.12 %H₂S 0.00

d 1.995 Fr .017777 GH 2246.1 Pcr 660.7 Tcr 351.0

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.732	.803	.825	.931	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	567.0	567.0	567.0	567.0	0.0
4 T=(Tw+Ts)/2	544.5	544.5	544.5	544.5	0.0
5 Z(Est.)	.888	.890	.894	.896	0.000
6 TZ	483.3	484.7	486.9	488.1	0.0
7 GH/TZ	4.647	4.634	4.613	4.601	0.000
8 e ^s (Table XIV)	1.190	1.193	1.189	1.188	0.000
9 1-e ^{-s} (Table XIV)	.160	.163	.159	.158	0.000
10 Pt	848.2	826.2	793.2	773.2	0.0
11 Pt ² /1000	719.4	682.5	629.2	597.8	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.596	8.616	8.655	8.677	0.000
14 FcQm	6.292	6.965	7.139	8.082	0.000
15 L/H(FcQm) ²	39.587	43.514	50.971	65.320	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	6.328	7.739	8.098	10.352	0.000
17 Pw ² =Pt ² +Fw	725.8	690.3	637.3	608.2	0.0
18 Ps ² =e ^s Pw ²	863.9	821.4	757.6	722.7	0.0
19 Ps	929.4	906.3	870.4	850.1	0.0
20 P=(Pt+Ps)/2	888.8	866.2	831.8	811.7	0.0
21 Pr=(P/Pcr)	1.35	1.31	1.26	1.23	0.00
22 Tr=(T/Tcr)	1.55	1.55	1.55	1.55	0.00
23 Z(Table XI)	.888	.890	.894	.896	0.000