

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

Adopted 9-1-65

DATE 4/4/89

COMPANY Yates Petroleum Corporation LEASE Reinauer RC Federal WELL NO. 1

LOCATION: Unit A Section 29 Township 7S Range 25E

L 3600.0 H 3600.0 L/H 1.000 G .647 %CO₂ .03 %N₂ 5.76 %H₂S 0.00

d 1.995 Fr .017777 GH 2329.2 Pcr 660.8 Tcr 355.3

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.348	.405	.449	.530	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	547.0	547.0	547.0	547.0	0.0
4 T=(Tw+Ts)/2	534.5	534.5	534.5	534.5	0.0
5 Z(Est.)	.876	.881	.890	.892	0.000
6 TZ	468.3	470.7	475.6	477.0	0.0
7 GH/TZ	4.974	4.948	4.897	4.883	0.000
8 e ^s (Table XIV)	1.205	1.204	1.201	1.201	0.000
9 1-e ^{-s} (Table XIV)	.170	.169	.168	.167	0.000
10 Pt	830.2	797.2	732.2	713.2	0.0
11 Pt ² /1000	689.2	635.5	536.1	508.7	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.325	8.374	8.459	8.480	0.000
14 FcQm	2.900	3.394	3.795	4.493	0.000
15 L/H(FcQm) ²	8.408	11.518	14.403	20.188	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	1.431	1.949	2.415	3.378	0.000
17 Pw ² =Pt ² +Fw	690.7	637.5	538.5	512.0	0.0
18 Ps ² =e ^s Pw ²	832.3	767.4	647.0	614.9	0.0
19 Ps	912.3	876.0	804.4	784.2	0.0
20 P=(Pt+Ps)/2	871.2	836.6	768.3	748.7	0.0
21 Pr=(P/Pcr)	1.32	1.27	1.16	1.13	0.00
22 Tr=(T/Tcr)	1.50	1.50	1.50	1.50	0.00
23 Z(Table XI)	.876	.881	.890	.892	0.000