

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

Adopted 9-1-65

DATE 5/4/88

COMPANY Yates Petroleum Corporation LEASE Whitworth RU State WELL NO. 3

LOCATION: Unit M Section 12 Township 9S Range 26E

L 4800.0 H 4800.0 L/H 1.000 G .616 %CO₂ .18 %N₂ 3.09 %H₂S 0.00

d 2.441 Fr .010495 GH 2956.7 Pcr 667.1 Tcr 352.3

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.000	1.063	1.176	1.400	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	562.0	562.0	562.0	562.0	0.0
4 T=(Tw+Ts)/2	542.0	542.0	542.0	542.0	0.0
5 Z(Est.)	.891	.894	.908	.915	0.000
6 TZ	482.7	484.4	492.1	495.9	0.0
7 GH/TZ	6.125	6.104	6.008	5.962	0.000
8 e ^s (Table XIV)	1.258	1.257	1.253	1.250	0.000
9 1-e ^{-s} (Table XIV)	.205	.204	.202	.200	0.000
10 Pt	791.2	766.2	656.2	603.2	0.0
11 Pt ² /1000	626.0	587.1	430.6	363.9	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	5.070	5.087	5.167	5.206	0.000
14 FcQm	5.069	5.408	6.077	7.287	0.000
15 L/H(FcQm) ²	25.698	29.252	36.929	53.093	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	5.270	5.981	7.446	10.634	0.000
17 Pw ² =Pt ² +Fw	631.3	593.0	438.0	374.5	0.0
18 Ps ² =e ^s Pw ²	794.1	745.5	548.7	468.3	0.0
19 Ps	891.1	863.4	740.7	684.3	0.0
20 P=(Pt+Ps)/2	841.2	814.8	698.5	643.8	0.0
21 Pr=(P/Pcr)	1.26	1.22	1.05	.97	0.00
22 Tr=(T/Tcr)	1.54	1.54	1.54	1.54	0.00
23 Z(Table XI)	.891	.894	.908	.915	0.000