

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

Adopted 9-1-65

DATE 1/19/83

COMPANY Yates Petroleum Corporation LEASE Sharp "OS" Com WELL NO. 1

LOCATION: Unit P Section 4 Township 17S Range 26E

L 7769.0 H 7769.0 L/H 1.000 G .686 %CO2 4.61 %H2 1.24 %H2S 0.00

d 1.995 Fr .017777 GH 5329.5 Pcr 686.9 Tcr 373.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.047	.067	.087	.109	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	598.0	598.0	598.0	598.0	0.0
4 T=(Tw+Ts)/2	560.0	560.0	560.0	560.0	0.0
5 Z(Est.)	.778	.791	.819	.936	0.000
6 TZ	435.5	442.8	458.9	523.9	0.0
7 GH/TZ	12.238	12.035	11.615	10.173	0.000
8 e ^s (Table XIV)	1.582	1.570	1.546	1.464	0.000
9 1-e ^{-s} (Table XIV)	.368	.363	.353	.317	0.000
10 Pt	1792.2	1559.2	1246.2	413.2	0.0
11 Pt ² /1000	3212.0	2431.1	1553.0	170.7	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	7.742	7.872	8.158	9.318	0.000
14 FcQm	.362	.528	.710	1.019	0.000
15 L/H(FcQm) ²	.131	.279	.505	1.038	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.048	.101	.178	.329	0.000
17 Pw ² =Pt ² +Fw	3212.0	2431.2	1553.2	171.1	0.0
18 Ps ² =e ^s Pw ²	5082.5	3817.8	2400.9	250.5	0.0
19 Ps	2254.4	1953.9	1549.5	500.5	0.0
20 P=(Pt+Ps)/2	2023.3	1756.6	1397.8	456.8	0.0
21 Pr=(P/Pcr)	2.95	2.56	2.04	.67	0.00
22 Tr=(T/Tcr)	1.50	1.50	1.50	1.50	0.00
23 Z(Table XI)	.778	.791	.819	.936	0.000