

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

Adopted 9-1-65

DATE 3/30/89

COMPANY Yates Petroleum Corporation LEASE China Draw REP St. WELL NO. 4

LOCATION: Unit N Section 36 Township 6S Range 22E

L 2760.0 H 2760.0 L/H 1.000 G .616 %CO2 .01 %N2 4.91 %H2S 0.00

d 1.995 Fr .017777 GH 1700.2 Pcr 663.3 Tcr 347.5

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.125	.145	.162	.175	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	564.0	564.0	564.0	564.0	0.0
4 T=(Tw+Ts)/2	543.0	543.0	543.0	543.0	0.0
5 Z(Est.)	.947	.963	.970	.984	0.000
6 TZ	514.4	522.7	526.7	534.4	0.0
7 GH/TZ	3.305	3.252	3.220	3.182	0.000
8 e ^s (Table XIV)	1.132	1.130	1.129	1.127	0.000
9 1-e ^{-s} (Table XIV)	.117	.115	.114	.112	0.000
10 Pt	402.2	288.2	235.2	118.2	0.0
11 Pt ² /1000	161.8	83.1	55.3	14.0	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	9.146	9.293	9.364	9.499	0.000
14 FcQm	1.146	1.352	1.521	1.665	0.000
15 L/H(FcQm) ²	1.313	1.827	2.314	2.773	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.153	.210	.264	.312	0.000
17 Pw ² =Pt ² +Fw	161.9	83.3	55.6	14.3	0.0
18 Ps ² =e ^s Pw ²	183.3	94.1	62.7	16.1	0.0
19 Ps	428.1	306.7	250.5	126.9	0.0
20 P=(Pt+Ps)/2	415.2	297.5	242.8	122.5	0.0
21 Pr=(P/Pcr)	.63	.45	.37	.18	0.00
22 Tr=(T/Tcr)	1.56	1.56	1.56	1.56	0.00
23 Z(Table XI)	.947	.963	.970	.984	0.000