

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

Adopted 9-1-65

DATE 5/8/91

COMPANY Yates Petroleum Corporation LEASE South Avalon YI Com WELL NO. 1

LOCATION: Unit K Section 23 Township 21S Range 26E

L 10349.0 H 10349.0 L/H 1.000 G .783 %CO₂ .01 %N₂ 1.33 %H₂S 0.00

d 2.441 Fr .010495 GH 8103.3 Pcr 663.4 Tcr 412.7

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.032	.040	.046	.053	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	680.0	680.0	680.0	680.0	0.0
4 T=(Tw+Ts)/2	601.0	601.0	601.0	601.0	0.0
5 Z(Est.)	.785	.753	.761	.815	0.000
6 TZ	472.0	452.5	457.4	489.9	0.0
7 GH/TZ	17.169	17.906	17.716	16.540	0.000
8 e ^s (Table XIV)	1.904	1.957	1.943	1.859	0.000
9 1-e ^{-s} (Table XIV)	.475	.489	.485	.462	0.000
10 Pt	2727.2	2229.2	1460.2	1013.2	0.0
11 Pt ² /1000	7437.6	4969.3	2132.2	1026.6	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	4.953	4.750	4.801	5.143	0.000
14 FcQm	.159	.192	.222	.272	0.000
15 L/H(FcQm) ²	.025	.037	.049	.074	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.012	.018	.024	.034	0.000
17 Pw ² =Pt ² +Fw	7437.6	4969.3	2132.2	1026.6	0.0
18 Ps ² =e ^s Pw ²	14159.8	9724.6	4142.9	1908.7	0.0
19 Ps	3763.0	3118.4	2035.4	1381.5	0.0
20 P=(Pt+Ps)/2	3245.1	2673.8	1747.8	1197.4	0.0
21 Pr=(P/Pcr)	4.89	4.03	2.63	1.80	0.00
22 Tr=(T/Tcr)	1.46	1.46	1.46	1.46	0.00
23 Z(Table XI)	.785	.753	.761	.815	0.000