

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

Adopted 9-1-65

DATE 4/27/88

COMPANY Yates Petroleum Corporation LEASE Millman SB State WELL NO. 2

LOCATION: Unit K Section 16 Township 19S Range 28E

L 10906.0 H 10906.0 L/H 1.000 G .617 %CO₂ .80 %N₂ .21 %H₂S 0.00

d 1.995 Fr .017777 GH 6728.6 Pcr 674.5 Tcr 359.7

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.386	.436	.462	.498	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	634.0	634.0	634.0	634.0	0.0
4 T=(Tw+Ts)/2	578.0	578.0	578.0	578.0	0.0
5 Z(Est.)	.850	.858	.883	.911	0.000
6 TZ	491.0	495.9	510.3	526.4	0.0
7 GH/TZ	13.702	13.569	13.185	12.783	0.000
8 e ^s (Table XIV)	1.672	1.663	1.640	1.615	0.000
9 1-e ^{-s} (Table XIV)	.402	.399	.390	.381	0.000
10 Pt	1365.2	1252.2	973.2	713.2	0.0
11 Pt ² /1000	1863.8	1568.0	947.1	508.7	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.730	8.815	9.072	9.357	0.000
14 FcQm	3.369	3.845	4.187	4.662	0.000
15 L/H(FcQm) ²	11.349	14.787	17.534	21.733	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	4.560	5.897	6.840	8.276	0.000
17 Pw ² =Pt ² +Fw	1868.3	1573.9	954.0	516.9	0.0
18 Ps ² =e ^s Pw ²	3123.2	2618.0	1564.1	834.9	0.0
19 Ps	1767.3	1618.0	1250.6	913.7	0.0
20 P=(Pt+Ps)/2	1566.2	1435.1	1111.9	813.5	0.0
21 Pr=(P/Pcr)	2.32	2.13	1.65	1.21	0.00
22 Tr=(T/Tcr)	1.61	1.61	1.61	1.61	0.00
23 Z(Table XI)	.850	.858	.883	.911	0.000