

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

Adopted 9-1-65

DATE 6/26/85

COMPANY Yates Petroleum Corporation LEASE _____ WELL NO. 4

LOCATION: Unit F Section 3 Township 19S Range 30E

L 10777.0 H 10777.0 L/H 1.000 G 1.640 %CO₂ .29 %N₂ 1.88 %H₂S 0.00

d 1.995 Fr .017777 GH 17674.2 Pcr 633.7 Tcr 693.4

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.334	.363	.445	.532	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	580.0	580.0	580.0	580.0	0.0
4 T=(Tw+Ts)/2	551.0	551.0	551.0	551.0	0.0
5 Z(Est.)	.820	.811	.800	.783	0.000
6 TZ	452.0	446.7	440.6	431.2	0.0
7 GH/TZ	39.098	39.563	40.118	40.986	0.000
8 e ^s (Table XIV)	4.334	4.406	4.501	4.650	0.000
9 1-e ^{-s} (Table XIV)	.769	.773	.778	.785	0.000
10 Pt	2528.2	2480.2	2423.2	2338.2	0.0
11 Pt ² /1000	6391.8	6151.4	5871.9	5467.2	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.035	7.945	7.832	7.667	0.000
14 FcQm	2.685	2.886	3.482	4.076	0.000
15 L/H(FcQm) ²	7.211	8.327	12.126	16.616	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	5.547	6.437	9.432	13.043	0.000
17 Pw ² =Pt ² +Fw	6397.4	6157.8	5881.4	5480.2	0.0
18 Ps ² =e ^s Pw ²	27723.6	27132.8	26471.2	25480.4	0.0
19 Ps	5265.3	5208.9	5145.0	5047.8	0.0
20 P=(Pt+Ps)/2	3896.8	3844.6	3784.1	3693.0	0.0
21 Pr=(P/Pcr)	6.15	6.07	5.97	5.83	0.00
22 Tr=(T/Tcr)	.79	.79	.79	.79	0.00
23 Z(Table XI)	.820	.811	.800	.783	0.000