

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

Adopted 9-1-65

DATE 1/3/91

COMPANY Yates Petroleum Corporation LEASE Whitworth RU State WELL NO. 5

LOCATION: Unit 0 Section 12 Township 9S Range 26E

L 4794.0 H 4794.0 L/H 1.000 G .656 %CO₂ 1.47 %N₂ 4.82 %H₂S 0.00

d 2.441 Fr .010495 GH 3144.9 Pcr 668.3 Tcr 358.5

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.176	.299	.374	.396	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	565.0	565.0	565.0	565.0	0.0
4 T=(Tw+Ts)/2	543.5	543.5	543.5	543.5	0.0
5 Z(Est.)	.966	.970	.973	.975	0.000
6 TZ	525.0	527.0	528.6	530.0	0.0
7 GH/TZ	5.991	5.968	5.950	5.934	0.000
8 e ^s (Table XIV)	1.252	1.251	1.250	1.249	0.000
9 1-e ^{-s} (Table XIV)	.201	.201	.200	.199	0.000
10 Pt	235.2	201.2	181.2	163.2	0.0
11 Pt ² /1000	55.3	40.5	32.8	26.6	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	5.510	5.531	5.547	5.562	0.000
14 FcQm	.970	1.653	2.075	2.204	0.000
15 L/H(FcQm) ²	.941	2.733	4.307	4.859	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.189	.548	.861	.969	0.000
17 Pw ² =Pt ² +Fw	55.5	41.0	33.7	27.6	0.0
18 Ps ² =e ^s Pw ²	69.5	51.3	42.1	34.5	0.0
19 Ps	263.6	226.5	205.2	185.7	0.0
20 P=(Pt+Ps)/2	249.4	213.9	193.2	174.4	0.0
21 Pr=(P/Pcr)	.37	.32	.29	.26	0.00
22 Tr=(T/Tcr)	1.52	1.52	1.52	1.52	0.00
23 Z(Table XI)	.966	.970	.973	.975	0.000