

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

Adopted 9-1-65

DATE 4/4/89

COMPANY Yates Petroleum Corporation LEASE East Wind State Ut WELL NO. 1

LOCATION: Unit G Section 17 Township 9S Range 27E

L 6135.0 H 6135.0 L/H 1.000 G .739 %CO₂ 1.08 %N₂ 4.06 %H₂S 0.00

d 2.441 Fr .010495 GH 4531.6 Pcr 665.0 Tcr 388.6

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.346	.392	.445	.467	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	604.0	604.0	604.0	604.0	0.0
4 T=(Tw+Ts)/2	563.0	563.0	563.0	563.0	0.0
5 Z(Est.)	.886	.920	.932	.946	0.000
6 TZ	499.1	517.9	524.6	532.4	0.0
7 GH/TZ	9.080	8.750	8.638	8.511	0.000
8 e ^s (Table XIV)	1.406	1.388	1.382	1.376	0.000
9 1-e ^{-s} (Table XIV)	.289	.280	.277	.273	0.000
10 Pt	632.2	445.2	379.2	303.2	0.0
11 Pt ² /1000	399.7	198.2	143.8	91.9	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	5.238	5.439	5.508	5.589	0.000
14 FcQm	1.812	2.133	2.453	2.611	0.000
15 L/H(FcQm) ²	3.283	4.551	6.016	6.816	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.947	1.272	1.664	1.862	0.000
17 Pw ² =Pt ² +Fw	400.6	199.5	145.5	93.8	0.0
18 Ps ² =e ^s Pw ²	563.1	276.9	201.1	129.0	0.0
19 Ps	750.4	526.2	448.4	359.2	0.0
20 P=(Pt+Ps)/2	691.3	485.7	413.8	331.2	0.0
21 Pr=(P/Pcr)	1.04	.73	.62	.50	0.00
22 Tr=(T/Tcr)	1.45	1.45	1.45	1.45	0.00
23 Z(Table XI)	.886	.920	.932	.946	0.000