

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

Adopted 9-1-65

DATE 6/12/85

COMPANY Yates Petroleum Corporation LEASE Williamson BC Fed WELL NO. 5

LOCATION: Unit 0 Section 17 Township 20S Range 29E

L 11447.0 H 11447.0 L/H 1.000 G .624 %CO₂ .97 %N₂ .40 %H₂S 0.00

d 1.995 Fr .017777 GH 7139.3 Pcr 674.7 Tcr 361.1

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.442	2.015	2.843	3.336	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	644.0	644.0	644.0	644.0	0.0
4 T=(Tw+Ts)/2	583.0	583.0	583.0	583.0	0.0
5 Z(Est.)	.828	.829	.832	.837	0.000
6 TZ	482.9	483.4	485.3	487.8	0.0
7 GH/TZ	14.784	14.769	14.712	14.635	0.000
8 e ^s (Table XIV)	1.741	1.740	1.736	1.731	0.000
9 1-e ^{-s} (Table XIV)	.426	.425	.424	.422	0.000
10 Pt	2069.2	1917.2	1733.2	1583.2	0.0
11 Pt ² /1000	4281.6	3675.7	3004.0	2506.5	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.586	8.593	8.626	8.672	0.000
14 FcQm	12.384	17.319	24.527	28.932	0.000
15 L/H(FcQm) ²	153.369	299.941	601.569	837.077	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	65.265	127.555	255.086	353.544	0.000
17 Pw ² =Pt ² +Fw	4346.8	3803.2	3259.1	2860.1	0.0
18 Ps ² =e ^s Pw ²	7566.9	6617.3	5658.5	4951.2	0.0
19 Ps	2750.8	2572.4	2378.8	2225.1	0.0
20 P=(Pt+Ps)/2	2410.0	2244.8	2056.0	1904.2	0.0
21 Pr=(P/Pcr)	3.57	3.33	3.05	2.82	0.00
22 Tr=(T/Tcr)	1.61	1.61	1.61	1.61	0.00
23 Z(Table XI)	.828	.829	.832	.837	0.000