

100 - 400
+ 12 - 5

Form O-122D
Adopted 9-1-65

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

COMPANY TXO PRODUCTION LEASE WILLIAMSON FED WELL NO. 5 DATE 4-13-90

LOCATION: Unit B Section 15 Township 20-S Range 29-E

L 7200 H 7200 L/H 1.0 G 771 % CO₂ 0.40 % N₂ 0.10 % H₂S —
d 4.276 (P₁ - P₂) / F₁ 100000 GH 55000 P_{cr} 3.00 T_{cr} 410
TABLE 10.1
TABLE 10.2

LINE	107	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1 Q _m	1.002	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071
2 T _w (W.H. °R)	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570
3 T _g (B.H. °R)	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606
4 T _f = (T _w + T _g) / 2	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570
5 Z (Est.)	1.942	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943
6 T ₂	536.9	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5	537.5
7 GH/T ₂	10.338	10.404	10.327	10.393	10.327	10.393	10.327	10.393	10.327	10.393	10.327	10.393	10.327	10.393	10.327	10.393	10.327	10.393	10.327	10.393	10.327	10.393	10.327
8 e ^s (Table XIV)	1.473	1.477	1.472	1.476	1.472	1.476	1.472	1.476	1.472	1.476	1.472	1.476	1.472	1.476	1.472	1.476	1.472	1.476	1.472	1.476	1.472	1.476	1.472
9 1 - e ^s (Table XIV)	1.321	1.323	1.321	1.322	1.321	1.322	1.321	1.322	1.321	1.322	1.321	1.322	1.321	1.322	1.321	1.322	1.321	1.322	1.321	1.322	1.321	1.322	1.321
10 P ₁	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2
11 P ₁ 2/1000	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1
12 F ₁ (Table XV)	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110	1.0059110
13 F ₂ = F ₁ T ₂	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173	3.173
14 F ₂ Q _m	1.015	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009
15 L/H (F ₂ Q _m) ²	1.016	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010
16 F _w = L/H (F ₂ Q _m) ² (1 - e ^s)	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
17 P _w = P ₁ 2 + F _w	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1
18 F _w 2 = e ^s P _w 2	137.2	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6	137.6
19 F _w	370.4	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9	370.9
20 P = (P ₁ + F _w) / 2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2
21 P _r = (P/P _{cr})	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071
22 T _r = (T/T _{cr})	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071
23 Z (Table XI)	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942	1.942