

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

Form C-1222D
Adopted 9-1-65

COMPANY FINN OIL & CHEMICALS MUSKIEGON 16 ST. (C.M.) WELL NO. 1 DATE 1-9-93

LOCATION: Unit 10645 Section 10645 Township 10645 Range 10645

L 10645 H 10645 L/H 1.000 G.M.A. = 1.701 % CO₂ 1.23 % N₂ .68 % H₂S
EQUIV. L 16617 d 2.0008 F₁ 2.017642 GH 7462.1 P_{CT} 672 T_{CT} 391
15.5 17 # ① ② ③ ④ TABLE IN 8 X

LINE	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1 Q _m	.707	.707	1.032	1.032	1.431	1.431	1.634	1.634
2 T _w (W.H. °R)	534	534	534	534	534	534	534	534
3 T _g (B.H. °R)	639	639	639	639	639	639	639	639
4 T = (L _w + 1.5)	586.5	586.5	586.5	586.5	586.5	586.5	586.5	586.5
5 Z (Est.)	.776	.802	.772	.775	.783	.772	.810	.790
6 T ₂	455.1	470.3	452.7	454.5	459.2	452.7	475.0	463.3
7 GH/T ₂	16.355	15.864	16.480	16.416	16.249	16.480	15.707	16.105
8 e ^s (Table XIV)	1.849	1.812	1.855	1.850	1.839	1.855	1.802	1.829
9 1 - e ^s (Table XIV)	.459	.448	.460	.459	.456	.460	.445	.453
10 P ₁	2703.2	2703.2	2233.2	2233.2	1883.2	1883.2	1493.2	1493.2
11 P ₁ 2/1000	7307.3	7307.3	4987.2	4987.2	3546.4	3546.4	2229.6	2229.6
12 F ₁ (Table XV)	.017642	.017642	.017642	.017642	.017642	.017642	.017642	.017642
13 F _c = F ₁ T ₂	8.029	8.298	7.987	8.018	8.101	7.987	8.381	8.174
14 F _c Q _m	5.676	5.866	8.243	8.275	11.593	11.430	13.654	13.356
15 i ₁ /H (F _c Q _m) ²	32.225	34.420	67.855	68.484	134.410	130.660	187.545	178.397
16 F _w = L/H (F _c Q _m) ² (1 - e ^{-s})	14.800	15.433	31.327	31.482	61.330	60.233	83.483	80.876
17 P _w ² = P ₁ ² + F _w	7322.1	7322.7	5018.5	5018.6	3607.8	3606.6	2313.1	2310.5
18 P _w ² = e ^s P _w ²	13541.2	13275.1	9310.6	9288.7	6635.5	6691.3	4168.8	4226.7
19 F ₂	3679.8	3643.5	3051.3	3047.7	2575.9	2586.7	2041.7	2055.8
20 P = (P ₁ + F ₂)	3191.5	3173.3	2642.2	2640.5	2229.5	2234.9	1767.4	1774.5
21 P _r = (P/P _{cr})	4.75	4.72	3.53	3.53	3.31	3.32	2.63	2.64
22 T _r = (T/T _{cr})	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
23 Z (Table XI)	.802	.802	.775	.775	.772	.772	.790	.789