

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

Form C-122D
Adopted 9-1-65

COMPANY The Superior Oil Co. LEASE Government "L" WELL NO. 1 DATE 1-31-79

LOCATION: Unit 6 Section 18 Township 245 Range 34E

L 13962 H 13962 L/H 1 G .587 % CO₂ .42 % N₂ .23 % H₂S 0

d 2.992 F_r .006325 GH _____

LINE	1st Rate			2nd Rate			3rd Rate			4th Rate			P _{CI} TABLE IX & X	T _{CI} TABLE IX & X
1 Q _m (MMCFD)	2.055	2.055	2.546	2.546	3.009	3.009	3.009	3.009	3.009	3.924	3.924		673	350
2 T _w (W.H. °R)	535	-	-	-	-	-	-	-	-	-	-			
3 T _s (B.H. °R)	660	-	-	-	-	-	-	-	-	-	-			
4 T = ($\frac{T_w + T_s}{2}$)	597.5	-	-	-	-	-	-	-	-	-	-			
5 Z (Est.)	1	1.14	1.1	1.108	1.1	1.1	1.1	1.1	1.1	1.04	1.04			
6 T _Z (4 x 5)	597.5	681.15	657.25	662.03	657.25	657.25	657.25	657.25	657.25	621.4	621.4			
7 GH/T _Z (GH/6)	13.72	12.032	12.47	12.38	12.47	12.47	12.47	12.47	12.47	13.19	13.19			
8 e ^s (Table XIV)	1.673	1.57	1.60	1.59	1.59	1.596	1.596	1.596	1.596	1.64	1.64			
9 1 - e ^s (Table XIV)	.402	.363	.37	.371	.374	.374	.374	.374	.374	.390	.390			
10 P _t	5963.2	5963.2	5713.2	5713.2	5513.2	5513.2	5513.2	5513.2	5513.2	5013.2	5013.2			
11 P _t ² /1000	35,560	35,560	32,641	32,641	30,395	30,395	30,395	30,395	30,395	25,132	25,132			
12 F _r (Table XV)	.006325	.006325	-	-	-	-	-	-	-	-	-			
13 F _c = F _r T _Z (12 x 6)	3.779	4.308	4.157	4.187	4.157	4.157	4.157	4.157	4.157	3.93	3.93			
14 F _c Q _m (13 x 1)	7.766	8.854	10.584	10.66	12.51	12.51	12.51	12.51	12.51	15.42	15.42			
15 L/H (F _c Q _m) ²	60.308	78.385	112.02	113.66	156.47	156.47	156.47	156.47	156.47	237.86	237.86			
16 F _w = L/H (F _c Q _m) ² (1 - e ^{-s})	24.244	28.46	41.45	42.166	58.52	58.52	58.52	58.52	58.52	92.77	92.77			
17 P _w ² = P _t ² + F _w (11+16)	35,584	35,588	32,682	32,683	30,454	30,454	30,454	30,454	30,454	25,225	25,225			
18 P _s ² = e ^s P _w ² (17x8)	59,532	55,874	52,292	51,966	48,604	48,604	48,604	48,604	48,604	41,369	41,369			
19 P _s	7716	7475	7231	7209	6972	6972	6972	6972	6972	6432	6432			
20 P = ($\frac{P_t + P_s}{2}$)	6840	6719	6472	6461	6242	6242	6242	6242	6242	5723	5723			
21 P _r = (P/P _{cr})	10.163	9.984	9.62	9.6	9.28	9.28	9.28	9.28	9.28	8.50	8.50			
22 T _r = (T/T _{cr})	1.71	1.71	-	-	-	-	-	-	-	-	-			
23 Z (Table XI)	1.14	1.135	1.108	1.108	1.09	1.09	1.09	1.09	1.09	1.05	1.05			