

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

Form C-122D
Adopted 9-1-65

COMPANY Yata Ref LEASE Solomon Bld. F. 1 WELL NO. 1 DATE 9.14.77

LOCATION: Unit A Section 25E Township 25E Range 25E

L 8934 H 8990 L/H 0.99377 G 0.584 % CO₂ 0.67 % N₂ 0.75 % H₂S 1.1

d 1.995 F_i 0.018231 GH 5795 P_{cr} 6746.1 T_{cr} 357.77
1st Rate 2nd Rate 3rd Rate 4th Rate

LINE	1st Trial	2nd Trial	1st Trial	2nd Trial	1st Trial	2nd Trial	1st Trial	2nd Trial	1st Trial	2nd Trial
1 Q _m	1.425		1.066		0.787		0.514		—	—
2 T _w (W.H. °R)	521		528		530		533		550	
3 T _s (B.H. °R)	591		592		594		595		612	
4 T = ($\frac{T_w + T_s}{2}$)	556		560		562		564		581	
5 Z (Est.)	0.896		.834		.825		.818		.836	
6 T _Z	498.2	498.9	469.0	468.2	463.65	461.96	461.35	460.22	485.7	
7 GH/T _Z	10.628	10.618	11.338	11.309	11.420	11.462	11.472	11.505	10.902	
8 e ^s (Table XIV)	1.490	1.489	1.530	1.528	1.535	1.537	1.538	1.539	1.505	
9 1-e ^s (Table XIV)	0.329	0.328	0.346	0.346	0.349	0.349	0.350	0.350		
10 P _t	967		1474		1810		2071		2447	
11 P _t 2/1000	588.29		2172.68		3276.10		4289.04			
12 F _t (Table XV)	0.18231									
13 F _c = F _t T _Z	9.0827	9.0918	8.5146	8.5350	8.4528	8.4221	8.4109	8.3903		
14 F _c Q _m	9.1554	9.1645	9.0766	9.0983	6.6524	6.6282	4.3232	4.3126		
15 L/H (F _c Q _m) ²	83.298	83.465	81.8909	82.2640	43.98	43.66	18.57	18.48		
16 F _w = L/H (F _c Q _m) ² (1-e ^{-s})	29.41	29.38	28.33	28.46	15.35	15.24	6.50	6.47		
17 P _w ² = P _t ² + F _w	615.90	615.67	2201.01	2201.14	3291.45	3291.34	4295.54	4295.51	5987.81	
18 P _s ² = e ^s P _w ²	919.39	916.93	3367.53	3363.35	5052.37	5058.99	6606.54	6610.79	9011.65	
19 P _s	959.8	957.5	1835.1	1833.9	2247.7	2249.8	2570.3	2571.1	3001.9	3002
20 P = ($\frac{P_t + P_s}{2}$)	862.4		1654.6		2028.9		2320.7		2724.4	
21 P _r = (P/P _{cr})	1.279		2.454		3.010		3.443		4.042	
22 T _r = (T/T _{cr})	1.596		1.5873		1.593		1.5986		1.647	
23 Z (Table XI)	0.899		0.836		0.822		0.816		0.8355	