

WORKSHEET FOR CALCULATION OF S.I. C COLUMN WELLHEAD PRESSURE (P_W)

C-122D
Adopted 9-1-65

COMPANY Yates Petroleum Corp LEASE Federal HQ WELL NO. 1 DATE 6-6-78

LOCATION: Unit N Section 5 Township 21 S Range 22 E

6065 H 6065 L/H 0.665 % CO₂ 1.08 % N₂ 1.09 % H₂S N.I.

1979 (3.98 = 23796.4) 86 (24101) 20649 6065 (41264) 255861.3 2.06495 0.01623 GH 4033.2 P_{Cr} 673 T_{Cr} 376

LINE	1	2	3	4	5	1	2	3	4
1 Q _m	—	0.127	0.175	0.247	0.317	0.127	0.175	0.247	0.317
2 T _w (W.H. °R)	513	520	525	528	530				
3 (B.H. °R)	578	576	575	574	573				
4 T = ($\frac{1}{2} \frac{W + 1}{S}$)	545.5	548	550	551	551.5	548	550	551	551.5
5 Z (Est.)	0.7445	0.755	0.765	0.775	0.792	0.7555	0.764	0.776	
6 T _Z	406.125	413.74	420.75	427.02	436.79	414.01	420.20	427.58	
7 GH/T _Z	9.931	9.748	9.586	9.445	9.234	9.7419	9.598	9.433	
8 e ^s (Table XIV)	1.4512	1.4413	1.4326	1.4250	1.4138	1.4410	1.4332	1.4244	
9 1-e ^s (Table XIV)		0.3062	0.3020	0.2983	0.2929	0.3060	0.3023	0.2979	
10 P ₁	1860.2	1730.2	1659.2	1526.2	1366.2	1730.2	1659.2	1526.2	
11 P ₁ 2/1000	3460.3	2993.59	2752.94	2329.29	1866.50	2993.59	2752.94	2329.29	
12 E ₁ (Table XV) $E_1 = 0.305 \frac{GH}{T_{Z1}}$	0.37241	0.36555	0.35949	0.35418	0.34627	0.36531	0.35994	0.35373	
13 F ₁ = F ₁ T _Z		6.715	6.829	6.9305	7.089	6.719	6.8198	6.9396	
14 c Q _m		0.853	1.195	1.7118	2.249	0.853	1.1935	1.7114	
15 L/H (F ₁ Q _m) ²		0.727	1.428	2.930	5.050	0.728	1.4244	2.938	
16 F _w = L/H (F ₁ Q _m) ² (1-e ^{-s})		0.22	0.43	0.87	1.48	0.22	0.43	0.88	
17 P _w = P ₁ + F _w		2993.81	2753.37	2330.16	1867.98	2993.81	2753.37	2330.17	
18 P _s = e ^s P _w	5621.7	4315.0	3944.5	3320.5	2641.0	4314.1	3946.1	3319.1	
19 P _s	22440.9	20979.3	1986.1	1822.2	1625.1	20979.0	1986.5	1821.8	
20 P = ($\frac{P_1 + P_s}{2}$)	2050.6	1963.7	1822.6	1694.2	1495.7	1963.6	1822.8	1694.0	
21 P _r = (P/P _{Cr})	3.049	2.829	2.708	2.488	2.222	2.829	2.709	2.487	
22 T _r = (T/T _{Cr})	1.4508	1.4575	1.4628	1.4654	1.4668	1.4575	1.4628	1.4654	
23 Z (Table XI)	0.7445	0.7555	0.764	0.776	0.792	0.7555	0.764	0.776	