

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

DATE 5/23/1996

COMPANY Yates Petroelum Corporation LEASE New Mexico DB State Com WELL NO. # 1

LOCATION: Unit F Section 7 Township 19S Range 24E

L 8702 H 8702 L / H 1.000 G 0.631 %CO₂ 0.178 %N₂ 0.904 %H₂S 0.000

d 2.441 Fr 0.010495 GH 5489.2 Pcr 670.2 Tcr 363.3

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.116	0.175	0.213	0.238	
2 Tw(W.H.°R)	520	520	520	520	
3 Ts(B.H.°R)	602	602	602	602	
4 T = (Tw+Ts) / 2	560.7	560.7	560.7	560.7	
5 Z (Est.)	0.884	0.908	0.933	0.959	
6 TZ	495.5	508.8	522.9	537.6	
7 GH / TZ	11.079	10.788	10.497	10.211	
8 e ^s (Table XIV)	1.515	1.498	1.482	1.467	
9 1-e ^s (Table XIV)	0.340	0.333	0.325	0.318	
10 Pt	813.2	633.2	453.2	273.2	
11 Pt ² / 1000	661.3	400.9	205.4	74.6	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	5.200	5.340	5.488	5.642	
14 FcQm	0.60	0.93	1.17	1.34	
15 L / H(FcQm) ²	0.4	0.9	1.4	1.8	
16 Fw = L / H(FcQm) ² (1-e ^s)	0.12	0.29	0.44	0.57	
17 Pw ² = Pt ² +Fw	661.4	401.2	205.8	75.2	
18 Ps ² = e ^s Pw ²	1002.1	601.2	305.1	110.3	
19 Ps	1001.0	775.4	552.4	332.1	
20 P = (Pt+Ps) / 2	907.1	704.3	502.8	302.7	
21 Pr = (P / Pcr)	1.35	1.05	0.75	0.45	
22 Tr = (T / Tcr)	1.54	1.54	1.54	1.54	
23 Z (Table XI)	0.884	0.908	0.933	0.959	