

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

DATE 01/02/1992

COMPANY Yates Petroleum Corp LEASE Long Arroyo WH Federal WELL NO. 1

LOCATION: Unit M Section 11 Township 14S Range 27E

L 7451 H 7451 L/H 1.000 G 0.639 %CO₂ 0.328 %N₂ 0.433 %H₂S 0.000

d 1.995 Fr 0.017777 GH 4763.4 Pcr 671.3 Tcr 367.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.052	0.076	0.111	0.134	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	595	595	595	595	
4 T = (Tw+Ts) / 2	558.2	558.2	558.2	558.2	
5 Z (Est.)	0.899	0.905	0.912	0.918	
6 TZ	501.9	505.4	508.9	512.4	
7 GH / TZ	9.490	9.426	9.360	9.296	
8 e ^s (Table XIV)	1.427	1.424	1.421	1.417	
9 1-e ^s (Table XIV)	0.299	0.298	0.296	0.294	
10 Pt	663.2	620.2	576.2	533.2	
11 Pt ² / 1000	439.8	384.6	332.0	284.3	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.923	8.984	9.047	9.109	
14 FcQm	0.47	0.68	1.01	1.22	
15 L / H(FcQm) ²	0.2	0.5	1.0	1.5	
16 Fw = L / H(FcQm) ² (1-e ^s)	0.06	0.14	0.30	0.44	
17 Pw ² = Pt ² +Fw	439.9	384.8	332.3	284.7	
18 Ps ² = e ^s Pw ²	627.9	547.9	472.1	403.5	
19 Ps	792.4	740.2	687.1	635.2	
20 P = (Pt+Ps) / 2	727.8	680.2	631.6	584.2	
21 Pr = (P / Pcr)	1.08	1.01	0.94	0.87	
22 Tr = (T / Tcr)	1.52	1.52	1.52	1.52	
23 Z (Table XI)	0.899	0.905	0.912	0.918	