

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

DATE 07/24/92

COMPANY Yates Petroleum corp LEASE Chalk AKH Federal Com WELL NO. 1

LOCATION: Unit I Section 22 Township 18S Range 27E

L 7600 H 7600 L/H 1.000 G 0.775 %CO₂ 0.585 %N₂ 0.661 %H₂S 1.000

d 2.441 Fr 0.010495 GH 5889.2 P_{cr} 673.8 T_{cr} 412.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.524	1.069	1.516	1.744	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	602	602	602	602	
4 T = (Tw+Ts) / 2	561.7	561.7	561.7	561.7	
5 Z (Est.)	0.889	0.912	0.933	0.952	
6 TZ	499.3	512.0	523.8	534.6	
7 GH / TZ	11.795	11.502	11.242	11.015	
8 e ^{As} (Table XIV)	1.556	1.539	1.524	1.512	
9 1-e ^{As} (Table XIV)	0.357	0.350	0.344	0.338	
10 Pt	473.2	370.2	266.2	163.2	
11 Pt ² / 1000	223.9	137.0	70.9	26.6	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	5.240	5.374	5.498	5.611	
14 FcQm	2.75	5.74	8.33	9.78	
15 L / H(FcQm) ²	7.5	33.0	69.5	95.7	
16 Fw = L / H(FcQm) ² (1-e ^{As})	2.69	11.57	23.90	32.39	
17 Pw ² = Pt ² +Fw	226.6	148.6	94.8	59.0	
18 Ps ² = e ^{As} Pw ²	352.7	228.7	144.4	89.2	
19 Ps	593.9	478.2	380.1	298.7	
20 P = (Pt+Ps) / 2	533.5	424.2	323.1	230.9	
21 Pr = (P / P _{cr})	0.79	0.63	0.48	0.34	
22 Tr = (T / T _{cr})	1.36	1.36	1.36	1.36	
23 Z (Table XI)	0.889	0.912	0.933	0.952	