

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

Adopted 9-1-65

DATE 5/8/91

COMPANY Yates Petroleum Corporation LEASE Zia AHZ Federal WELL NO. 1

LOCATION: Unit G Section 14 Township 20S Range 29E

L 11050.0 H 11050.0 L/H 1.000 G 1.096 %CO₂ .41 %N₂ .21 %H₂S .00

d 2.441 Fr .010495 GH 12110.8 Pcr 656.1 Tcr 518.4

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.398	1.579	1.644	1.868	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	637.0	637.0	637.0	637.0	0.0
4 T=(Tw+Ts)/2	579.5	579.5	579.5	579.5	0.0
5 Z(Est.)	.576	.568	.509	.428	0.000
6 TZ	333.6	329.0	295.1	247.9	0.0
7 GH/TZ	36.304	36.807	41.035	48.858	0.000
8 e ^s (Table XIV)	3.898	3.971	4.662	6.237	0.000
9 1-e ^{-s} (Table XIV)	.743	.748	.786	.840	0.000
10 Pt	1756.2	1712.2	1392.2	938.2	0.0
11 Pt ² /1000	3084.2	2931.6	1938.2	880.2	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	3.504	3.456	3.096	2.604	0.000
14 FcQm	4.899	5.457	5.089	4.864	0.000
15 L/H(FcQm) ²	24.004	29.780	25.895	23.655	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	17.845	22.282	20.341	19.862	0.000
17 Pw ² =Pt ² +Fw	3102.1	2953.9	1958.6	900.1	0.0
18 Ps ² =e ^s Pw ²	12090.5	11731.0	9131.8	5613.5	0.0
19 Ps	3477.1	3425.1	3021.9	2369.3	0.0
20 P=(Pt+Ps)/2	2616.7	2568.6	2207.1	1653.7	0.0
21 Pr=(P/Pcr)	3.99	3.92	3.36	2.52	0.00
22 Tr=(T/Tcr)	1.12	1.12	1.12	1.12	0.00
23 Z(Table XI)	.576	.568	.509	.428	0.000