

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

Adopted 9-1-65

DATE 5/4/88

COMPANY Yates Petroleum Corporation LEASE Long Arroyo MQ Fed WELL NO. 2

LOCATION: Unit A Section 26 Township 14S Range 27E

L 8196.0 H 8196.0 L/H 1.000 G .693 %CO₂ 1.00 %N₂ .55 %H₂S 0.00

d 2.441 Fr .010495 GH 5675.9 Pcr 672.2 Tcr 383.3

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.064	1.075	1.189	1.250	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	622.0	622.0	622.0	622.0	0.0
4 T=(Tw+Ts)/2	572.0	572.0	572.0	572.0	0.0
5 Z(Est.)	.775	.778	.779	.781	0.000
6 TZ	443.4	444.8	445.8	446.9	0.0
7 GH/TZ	12.800	12.760	12.732	12.701	0.000
8 e ^s (Table XIV)	1.616	1.614	1.612	1.610	0.000
9 1-e ^{-s} (Table XIV)	.381	.380	.380	.379	0.000
10 Pt	1688.2	1643.2	1613.2	1583.2	0.0
11 Pt ² /1000	2850.0	2700.1	2602.4	2506.5	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	4.654	4.668	4.679	4.690	0.000
14 FcQm	4.950	5.017	5.564	5.862	0.000
15 L/H(FcQm) ²	24.506	25.170	30.962	34.363	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	9.342	9.572	11.754	13.020	0.000
17 Pw ² =Pt ² +Fw	2859.3	2709.7	2614.2	2519.6	0.0
18 Ps ² =e ^s Pw ²	4620.7	4372.4	4213.8	4056.6	0.0
19 Ps	2149.6	2091.0	2052.8	2014.1	0.0
20 P=(Pt+Ps)/2	1918.9	1867.1	1833.0	1798.7	0.0
21 Pr=(P/Pcr)	2.85	2.78	2.73	2.68	0.00
22 Tr=(T/Tcr)	1.49	1.49	1.49	1.49	0.00
23 Z(Table XI)	.775	.778	.779	.781	0.000