

WORKSHEET FOR CALCULATION OF S₁ MIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY Yates Petroleum Corp LEASE Yates 6 Federal WELL NO. 2 DATE 3-9-78

LOCATION: Unit G Section 6 Township 18-S Range 26-E

L 8491 H 8497 LN 0.1651 %CO₂ 0.37 %N₂ 1.23 %H₂S Nil

2/3 3027 (500) d 2.0358 F_r 0.016843 GH 5531 672° 375' 4" 1.3- 3.9-

TABLE IN 8.8

LINE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 Q _m		.453	.605	.771	.969		.453	.605	.771	.969													
2 T _w (W.H. °R)	509	522	530	535	538																		
3 S (B.H. °R)	601	600	595	598	597																		
4 T = (L _w + 1.5)	555	561	562.5	566.5	569.5		561	562.5	566.5	569.5													
5 Z (Est.)	.800	.788	.785	.785	.785																		
6 TZ	444.0	442.07	441.56	444.7	448.3		440.44	443.85	450.03														
7 GH/TZ	12.457	12.512	12.526	12.438	12.327		12.558	12.461	12.290														
8 e ^s (Table XIV)	1.5954	1.5987	1.5995	1.5943	1.5883		1.6015	1.5957	1.5855														
9 1 - e ^s (Table XIV)		0.3745	0.3748	0.3928	0.3704		0.3756	0.3733	0.3693														
10 F ₁	2941.7	2534.2	2357.2	2103.2	1743.2		2257.2	2103.2	1743.2														
11 F ₁ 2/1000	8072.4	6422.2	5556.4	4423.5	3038.7		5556.4	4423.5	3038.7														
12 F ₁ (Table XIV)	.46714	.46919	.46972	.46641	.46264		.46992	.46930	.46087														
13 c = F ₁ TZ		7.4457	7.4372	7.490	7.5507		7.4183	7.44958	7.5749														
14 F ₁ Q _m		3.373	4.4995	5.775	7.3166		4.488	5.764	7.3449														
15 L/H (F ₁ Q _m) ²		11.377	20.245	33.35	53.53		20.143	33.22	53.95														
16 F _w = L/H (F ₁ Q _m) ² (1 - e ^{-s})		4.3	7.6	12.4	19.8		7.6	12.4	19.9														
17 F _w = P ₁ ² + F _w		6426.5	5564.0	4435.9	3058.5		5564.0	4435.9	3058.6														
18 P _s ² = e ^s P _w ²	12879	10274	8899.6	7072.2	4857.8		8910.7	7078.4	4849.4														
19 P _s	3588.7	3205.3	2983.2	2659.4	2204.0		2985.1	2660.5	2202.1														
20 P = (P ₁ + P _s)	3215	2869.8	2670.2	2381.3	1973.6		2671.1	2381.8	1972.7														
21 P ₁ = (P/P _{cr})	4.793	4.283	3.985	3.554	2.946		3.987	3.535	2.944														
22 T ₁ = (T/T _{cr})	1.496	1.512	1.516	1.527	1.530		1.516	1.527	1.530														
23 Z (Table XI)	.800	0.788	.783	.7835	.793		.783	.7835	.7905														