

WORKSHEET FOR CALCULATION OF SIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
As-adopted 9-1-65

COMPANY Yates Petroleum Corp LEASE Upham KN WELL NO. 1 DATE 5-26-79

LOCATION: Unit K Section 14 Township 18-S Range 25-E

L 8611 H 8611 L/H G 0.636 % CO₂ 0.42 % N₂ 0.58 % H₂S N/I

$2\frac{1}{8} - 8585 (5.958) = 51149$
 $5\frac{1}{2} - 26 (23.93) = 622$
8611 (6.022) 51771

F_i 0.009758 GH 5907 P_{Cr} 670 T_{Cr} 384.5

LINE	51	1	2	3	4	51	1	2	3	4
1 Q _m	-	0.513	0.707	1.013	1.367		513	707	1.013	1.367
2 T _w (W.H. °R)	519	523	526	528	530					
3 T _s (B.H. °R)	603	603	602	602	601					
4 T = $(\frac{T_w + T_s}{2})$	561	563	564	565	565.5		563	564	565	565.5
5 Z (Est.)	.762	.758	.756	.752	.753				.754	
6 TZ	427.48	426.75	426.38	424.88	425.82				426.01	
7 CH/TZ	13.818	13.842	13.854	13.903	13.872				13.866	
8 e ^s (Table XIV)	1.6790	1.6805	1.6812	1.6843	1.6824				1.6820	
9 1 - e ^s (Table XIV)		0.4049	0.4052	0.4063	0.4056				0.4055	
10 P _i	2534.2	2407.2	2349.2	2242.2	2117.2				2242.2	
11 P _i 2/1000	6422.2	5794.6	5518.7	5027.5	4482.5				5027.5	
12 F _i (Table XV) $S = 0.375$	0.51818	0.51906	0.51951	0.52135	0.52020				0.51997	
13 F _c = F _i TZ		4.1642	4.1606	4.146	4.155				4.1570	
14 F _c Q _m		2.136	2.442	4.20	5.680				4.811	
15 L/H (F _c Q _m) ²		4.562	8.653	17.64	32.06				17.73	
16 F _w = L/H (F _c Q _m) ² (1 - e ^{-s})		1.85	3.5	7.2	13.1				7.2	
17 P _w ² = P _i ² + F _w		5796.45	5522.2	5034.7	4495.6				5034.7	
18 P _w ² = e ^s P _w ²	10783	9740.9	9283.9	8420.0	7563.4				8468.4	
19 P _s	3283.7	3121.0	3047.0	2912.0	2750.2				2910.0	
20 P = $(\frac{P_i + P_s}{2})$	2909.0	2764.1	2698.1	2577.1	2433.7				2576.1	
21 P _i = (P/P _{Cr})	4.342	4.126	4.027	3.846	3.632				3.845	
22 T _i = (T/T _{Cr})	1.459	1.464	1.467	1.469	1.471				1.469	
23 Z (Table XI)	.762	0.758	0.756	.754	0.753				0.754	