

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

COMPANY Yates Petroleum Corp LEASE Lechuquilla Canyon Unit WELL NO. 7 DATE 4-14-78

LOCATION: Unit F Section 4 Township 24S Range 24E

L 9929 H 9929 L/H G 0.582 % CO₂ 1.53 % N₂ 0.26 % H₂S N.17

27/8 - 4838 (3.98) = 39155
5/2 - 91(23.98) = 2178
7929 (4.1628) = 1333

P_{Cr} 6720 + 350.8 = 7070.8 P_{Cr} 678 T_{Cr} 342.5

LINE	S1	1	2	3	4	51	1	2	3	4
1 Q _m	—	0.752	1.040	1.507	2.097	—	0.752	1.040	1.507	2.097
2 T _w (W.H. °R)	532	535	537	539	540					
3 T _s (B.H. °R)	620	619	618	617	616					
4 T = ($\frac{T_w + T_s}{2}$)	576	577	579.5	578	578		577	579.5	578	578
5 Z (Est.)	.865	.856	.852	.845	.840					.842
6 TZ	498.24	493.91	492.03	488.41	485.52					486.676
7 GH TZ	11.599	11.700	11.7452	11.8323	11.903					11.8744
8 e ^s (Table XIV)	1.5449	1.5508	1.5534	1.5585	1.5626					1.5609
9 1-e ^s (Table XIV)		0.3552	0.3562	0.3583	0.3600					0.3594
10 P ₁	3031.2	2856.2	2745.2	2541.2	2171.2					2171.2
11 P ₁ 2/1000	918.2	8157.9	7536.1	6457.7	4714.1					4714.1
12 F ₁ (Table XV) $\frac{P_1}{1000}$	43495	43897	44405	44371	44635					44529
13 F _c = F ₁ TZ		8.2011	8.2395	8.1789	8.1305					8.1499
14 F _c Q _m		6.220	8.569	12.3256	17.050					17.090
15 L/H (F _c Q _m) ²		38.69	73.43	151.9	290.7					292.07
16 F _w = L/H (F _c Q _m) ² (1-e ^s)		13.7	26.2	54.4	104.7					105.0
17 F _w ² = P ₁ ² + F _w		8171.6	7562.3	6512.1	488.8					4819.1
18 P _s ² = e ^s P _w ²	14194.8	12672.5	11747.3	10149.1	7529.9					7522.1
19 P _s	3767.6	3559.8	3427.4	3185.8	2744.0					2742.7
20 P = ($\frac{P_1 + P_s}{2}$)	3394.4	3208.0	3086.3	2863.5	2457.6					2456.9
21 P ₁ = (P/P _{Cr})	5.016	4.732	4.552	4.223	3.625					3.624
22 T ₁ = (T/T _{Cr})	1.6575	1.660	1.662	1.663	1.6633					1.6633
23 Z (Table XI)	.865	0.856	0.852	0.845	0.842					0.842