

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

COMPANY YPC LEASE EXXON KU Fed WELL NO. 1 DATE 11-5-79

LOCATION: Unit F Section 31 Township 17S Range 27E

L 8985 H 8985 LN 1000 G 0.643 % CO₂ 3.64 % N₂ 0.67 % H₂S N17

2 39-3954/1308-25637 F_r 0.016457 GH 5777 * 2.46 mol % H₂O

4 311600 d 2.0053 F_r 0.016457 GH 5777 * 2.46 mol % H₂O

4 3985/4028 36133

LINE	SI	1	2	3	4	1	2	3	4
1 Q _m	-	1069	1096	1136	1190				
2 T _w (W.H. °R)	500	506	511	517	524				
3 T _s (B.H. °R)	606	606	605	605	604				
4 T = (T _w + T _s) / 2	553	556	558	561	564				
5 Z (Est.)	17475	1747	1747	1749	1751				
6 TZ	413.36	415.33	416.83	420.19	423.56				
7 GH/TZ	13.9785	13.909	13.8595	13.749	13.639				
8 e ^s (Table XIV)	1.6891	1.6847	1.6816	1.6746	1.6677				
9 1-e ^s (Table XIV)		0.4064	0.4053	0.4028	0.4004				
10 P ₁	2763.2	2645.2	2579.3	2454.2	2246.2				
11 P ₁ ² /1000	7635.3	6997.0	6652.2	6023.1	5045.4				
12 F _r (Table XV) <u>52159</u>	52159	51973	51973	51557	51146				
13 F _c = F _r TZ		6.8351	6.860	6.915	6.9706				
14 F _c Q _m		0.4772	0.6585	0.940	1.324				
15 L/H (F _c Q _m) ²		0.1	0.2	0.4	0.7				
16 F _w = L/H (F _c Q _m) ² (1-e ^s)		6.9971	6.6525	6.0235	5.0461				
17 P _w ² = P ₁ ² + F _w		11788	11189	10087	8415.4				
18 P _s ² = e ^s P _w ²		3591.2	3344.7	3176.0	2900.9				
19 P _s		3197.2	3039.3	2962.0	2815.1				
20 P = (P ₁ + P _s) / 2		4126.5	4079	3975	3779				
21 P _r = (P/P _{cr})		1.4140	1.448	1.453	1.461				
22 T _r = (T/T _{cr})		17475	1747	1747	1749				
23 Z (Table XI)		0.747	0.747	0.747	0.751				