

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY YPC LEASE Cottonwood KI Fed WELL NO. 1 DATE 6-16-80

LOCATION: Unit J Section 17 Township 16S Range 25E

L 6856 H 5337 L/H 0.643 % CO₂ 0.16 % N₂ 1.01 % H₂S N.I.

d 2.441 F_r 1010763 GH 3432 P_{cr} 727 T_{cr} 393

Note: 1519' SW on btm = 661 psi hydrostatic

LINE	1	2	3	4					
1 Q _m	SI	1	2	3	4				4
2 T _w (W.H. °R)	-	0.094	0.131	0.181	0.252				0.252
3 T _s (B.H. °R)	509	533	538	542	545				
4 T = ($\frac{1}{T_w} + \frac{1}{T_s}$)	580	580	580	580	580				
5 Z (Est.)	544.5	556.5	559	561	562.5				562.5
6 TZ	0.7465	0.744	0.755	0.7925	0.848				0.849
7 GH/TZ	406.47	414.04	422.05	444.59	477.00				477.56
8 e ^s (Table XIV)	8.4435	8.289	8.1318	7.7194	7.195				7.1865
9 1-e ^s (Table XIV)	1.3725	1.3646	1.3565	1.3352	1.3097				1.3093
10 P _t		0.2672	0.2628	0.2513	0.2365				0.2362
11 P _t ² /1000	1807.2	1594.2	1468.2	1275.2	902.2				902.2
12 F _r (Table XV)	2266.0	2541.47	2155.6	1626.1	814.0				814.0
13 F _c = F _r TZ	0.31663	0.31084	0.30494	0.28948	0.26931				0.26949
14 F _c Q _m		4.456	4.5484	4.785	5.134				5.1140
15 L/H (F _c Q _m) ²		0.419	0.5958	0.866	1.294				1.295
16 F _w = L/H (F _c Q _m) ² (1-e ^s)		0.175	0.355	0.750	1.674				1.678
17 P _w ² = P _t ² + F _w		0.05	0.1	0.2	0.4				0.4
18 P _s ² = e ^s P _w ²		2541.52	2155.7	1626.3	814.4				814.4
19 P _s	4482.5	3468.2	2924.2	2172.2	1066.6				1066.3
20 P = ($\frac{P_t + P_s}{2}$)	2778.2	2523.2	2321.0	2134.9	1693.8				1693.6
21 P _t = (P/P _{cr})	1962.2	1728.2	1587.1	1374.5	967.5				967.4
22 T _t = (T/T _{cr})	2.699	2.377	2.186	1.891	1.331				1.331
23 Z (Table XI)	1.3855	1.416	1.422	1.4275	1.431				1.431
	1791.5	0.744	0.755	0.7925	0.849				0.849