

WORKSHEET FOR CALCULATION OF ST. 1.1C COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY WPC LEASE Hilland LE Ed WELL NO. 1 DATE 9-13-79

LOCATION: Unit C Section 14 Township 21S Range 22E

L 8696 H 8696 L/H 1.000 G 0.632* % CO₂ 0.55 % N₂ 0.44 % H₂S N/S
 1-4 = 11(7.43) = 87.2
 2 = 49(18.3) = 876.7
 3 = 8636(3.98) = 34371.3
 4 = 2.01635 F_i 0.016223 GH 5496
 * 5.88 Mole Pt Water in well stream during test.

LINE 8696(4000)353552	S1	1	2	3	4	5	1	2	3	4
1 G _m	-	1.526	2.160	2.949	3.981				2.949	3.981
T _w (W.H. °R)	522	526	531	535	538					
3 T _s (B.H. °R)	604	603	602	601	600					
4 T = (1 _w + T _s) ²	563	564.5	566.5	568	569				568	569
5 Z (E _{st})	.916	.745	.750	.773	.810				.770	.807
6 T _Z	403.01	428.55	424.88	439.06	460.89				437.36	459.18
7 GH/T _Z	13.637	13.069	12.936	12.578	11.925				12.566	11.969
8 e ^s (Table XIV)	1.6676	1.6325	1.6243	1.5905	1.5639				1.6020	1.5665
9 1-e ^s (Table XIV)		0.3894	0.3844	0.3746	0.3606				0.3758	0.3616
10 P _i	1626.2	1492.2	1418.2	1270.2	1039.2				1270.2	1039.2
11 P _i 2/1000		2226.7	2011.3	1613.4	1079.9				1613.4	1079.9
12 F _i (Table XV) S _i 175 4 _i	0.51135	0.49009	0.48508	0.46941	0.44718				0.44718	0.44884
3 F _c = F _i T _Z		6.58226	6.893	7.123	7.477				7.0953	7.449
14 F _c Q _m		10.411	14.889	21.005	29.766				20.924	29.1656
15 L/H (F _c Q _m) ²		108.39	221.67	441.2	886.02				439.8	899.48
16 F _w = L/H (F _c Q _m) ² (1-e ^{-s})		42.0	85.2	165.3	319.5				164.5	318.0
17 F _w 2 = P _i 2 + F _w		2268.7	3076.5	1778.9	1399.4				1779.9	1397.9
18 F _s 2 = e ^s P _w 2	4010.0	3923.7	3405.3	2846.2	2188.5				2848.2	2189.8
19 P _s	2100.0	1924.5	1845.4	1686.5	1479.4				1689.7	1479.8
20 P = (1 + P _s) ²	1843.1	1708.3	1631.8	1498.3	1259.3				1499.0	1259.5
21 P _i = (P/P _{cr})	2.293	2.103	2.008	1.820	1.550				1.820	1.556
22 T _i = (T/T _{cr})	1.3465	1.370	1.375	1.379	1.381				1.399	1.381
23 Z (Table XI)	.716	.745	.750	.770	.807				.790	.817