

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURE (~~Pb~~ or Pw)  
FROM KNOWN BOTTOM HOLE PRESSURE (~~Pb~~ or Ps)

FORM C-122F

COMPANY HALLWOOD ENERGY LEASE : CAT DRW WELL NO. : 9 DATE 5 21 91  
UNIT F SECTION : 35 TOWNSHIP : 21 RANGE : 25  
L 10337 H : 10337 L/H : 1 G/GMIX : 0.5930  
CO2 : 0.75 N2 : 0.45 H2S :  
GH : 6129.8 PCR : 675 TCR : 354

| LINE |                         | 1       | 2       | 3      | 4      | 5      | 6      | 7      | 8      |
|------|-------------------------|---------|---------|--------|--------|--------|--------|--------|--------|
| 1    | TW(W.H. R)              | 534     | 534     | 534    | 534    | 534    | 534    | 534    | 534    |
| 2    | Ts(B.H. R)              | 637.4   | 637.4   | 637.4  | 637.4  | 637.4  | 637.4  | 637.4  | 637.4  |
| 3    | T=(Tw+Ts/2)             | 585.7   | 585.7   | 585.7  | 585.7  | 585.7  | 585.7  | 585.7  | 585.7  |
| 4    | Z (EST.)                | 0.908   | 0.834   | 0.840  | 0.830  | 0.837  | 0.829  | 0.831  | 0.826  |
| 5    | TZ                      | 532     | 489     | 492    | 486    | 490    | 485    | 487    | 484    |
| 6    | GH/TZ                   | 11.532  | 12.546  | 12.457 | 12.603 | 12.499 | 12.627 | 12.599 | 12.672 |
| 7    | eS(TABLE XIV)           | 1.541   | 1.601   | 1.595  | 1.604  | 1.598  | 1.606  | 1.604  | 1.608  |
| 8    | Pf or Ps                | 3268    | 3268    | 3130   | 3130   | 3049   | 3049   | 2816   | 2816   |
| 9    | Pf2 or Ps2              | 10679.8 | 10679.8 | 9796.9 | 9796.9 | 9296.4 | 9296.4 | 7929.9 | 7929.9 |
| 10   | Pc2=Pf/eS or Pw2=Ps2/eS | 6930.4  | 6671.8  | 6140.7 | 6107.0 | 5817.8 | 5789.9 | 4943.9 | 4930.4 |
| 11   | Pc or Pw                | 2633    | 2583    | 2478   | 2471   | 2412   | 2406   | 2223   | 2220   |
| 12   | P=(Pw+Ps/2)or(Pc+Pf/2)  | 2950    | 2925    | 2804   | 2801   | 2731   | 2728   | 2520   | 2518   |
| 13   | Pr=(P/Pcr)              | 4.37    | 4.33    | 4.15   | 4.15   | 4.05   | 4.04   | 3.73   | 3.73   |
| 14   | Tr(T/Tcr)               | 1.65    | 1.65    | 1.65   | 1.65   | 1.65   | 1.65   | 1.65   | 1.65   |
| 15   | Z (TABLE XI)            | 0.834   | 0.834   | 0.830  | 0.830  | 0.829  | 0.829  | 0.826  | 0.826  |

PW 1 : 2583.0 PW 2 : 2471.2 PW 3 : 2406.2 PW 4 : 2220.5