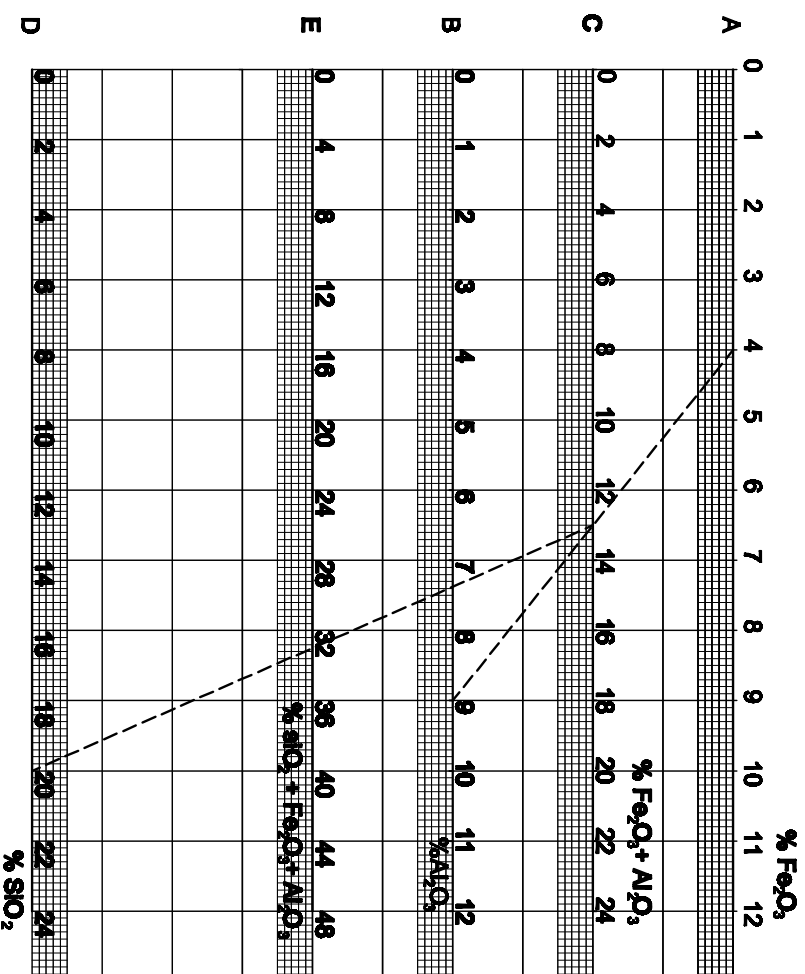


**step 1**

calculate  $Fe_2O_3+Al_2O_3$  &  $Fe_2O_3+Al_2O_3+SiO_2$



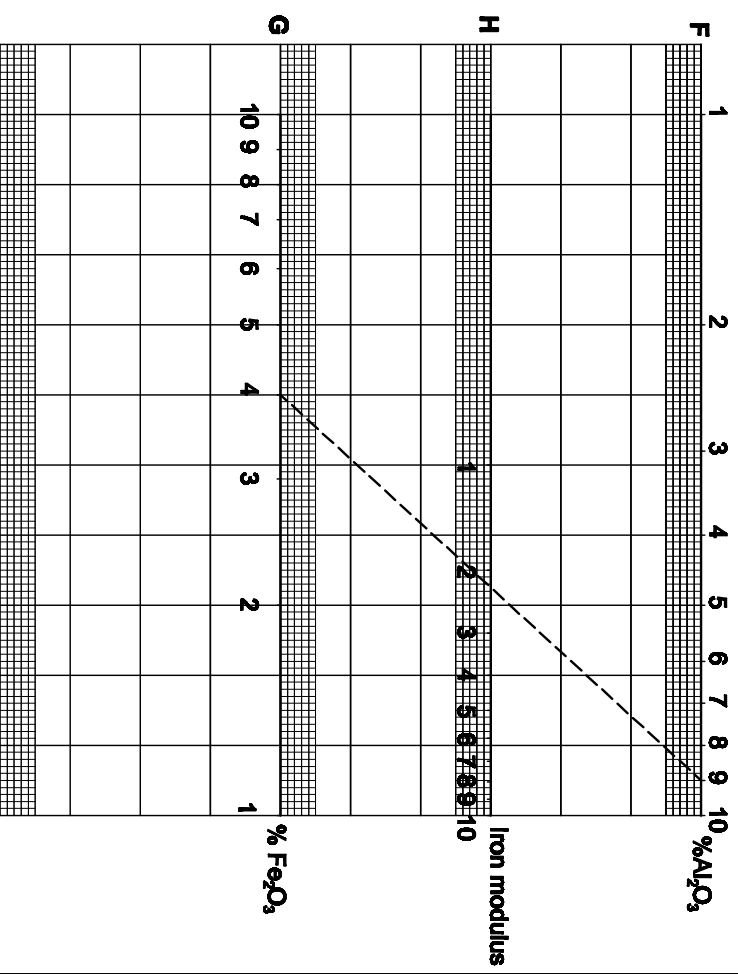
scale :

A : 1 cm = 1% , B : 1 cm = 1% , C : 1 cm = 2%  
D : 1 cm = 2% , E : 1 cm = 4%

example:

$Fe_2O_3 = 4\%$  (A),  $Al_2O_3 = 9\%$  (B),  $Fe_2O_3+Al_2O_3 = 13\%$  (C)  
 $Fe_2O_3+Al_2O_3 = 13\%$  (C)  $SiO_2 = 20\%$  (D)  
 $Fe_2O_3+Al_2O_3+SiO_2 = 33\%$  (E)

**step 2** calculate Iron modulus  $Al_2O_3/Fe_2O_3$



scale :

F & G log scale 10 cm = 1-10 %  
H = log scale 5 cm = 1-10 ratio

example:

$Al_2O_3 = 9\%$  (F)  
 $Fe_2O_3 = 4$  (G)  
 $Al_2O_3 / Fe_2O_3 = \text{Iron modulus} = 2.25$  (H)