$$C_{i,corr.} = C_{i,app.}\left(1 + \sum \alpha_{ij} c_j\right) \qquad i =$$

		1st iteration		2nd iteration		3rd iteration		
j	α_{ij}	C_j	$\alpha_{ij} C_j$	C_j	$\alpha_{ij} C_j$	C_j	$\alpha_{ij} C_j$	C
Ca								
Si								
Al								
Na								
Mg								
S								
K								
P								
Fe								
LOI								
SUM								

Table 3. Interelement Correction (α) Factors for Cement.

Analyte	CaO		SiO_2		Al_2O_3	
Interfering Element	Rh	Cr	Rh	Cr	Rh	Cr
Na_2O	-.0013	-.0007	+.0075	+.0110	+.0079	+.0096
MgO	-.0018	-.0013	+.0065	+.0100	+.0110	+.0120
Al_2O_3	-.00053	+.0002	+.0098	+.0130	------	------
SiO_2	+.0003	+.0013	------	------	-.0037	-.0050
SO_3	+.0020	+.0030	+.0027	+.0030	+.0078	+.002
K_2O	+.0228	+.0240	-.0001	+.0019	+.0020	+.0049
P_2O_5	-.00016	-.0015	-.0003	+.0008	-.0003	-.0007
CaO	------	------	+.0010	-.0015	-.0007	+.0043
Fe_2O_3	-.0028	-.0019	+.0071	+.0086	+.0093	+.0088
L.O.I.	-.0067	-.0060	-.0013	-.0013	-.0006	+.0028

Since potassium absorbs CaK_α radiation the result would be to cause a negative error (thus the correction factor is positive in sign).

Similarly, to again emphasize the error caused by L.O.I., at 65% CaO, and 1% difference in L.O.I.,

$$65\% \times .0067 \times 1\% = .44\%$$

In this case, since the correction factor is negative, the actual results would be too high by .44%.

APPLICATION OF CORRECTION FACTORS

The correction factors obtained in these experiments were used to correct the x-ray intensities, expressed as volts collected on integrating capacitors, of the NBS series 1011-1016 cement standard samples. Thus,