APPENDIX II

Decomposition of sample by HF-HClO$_4$: 

The samples were decomposed by a method that combines the procedures described in Black (1965) and Jeffery (1970).

Procedure: To 200 ± 0.05 mg samples in clean platinum crucibles, a little water was added followed by 10 ml concentrated HClO$_4$ (GR E. Merck) and 10 ml concentrated HF (GR E. Merck). The crucibles were placed on a hot plate and heated gradually until the acid began to fume. Fuming was continued until the acid was almost dry. After this stage very slow heating was maintained in order to avoid spattering of the contents. Heating was continued until the residues were quite dry and no further fumes of HClO$_4$ could be detected. The residues were then cooled, and 2 ml water and 2 ml HClO$_4$ were added to each. The samples were heated again in a similar manner to remove all traces of fluoride. The residues were dissolved in 10 ml water and 5 ml HClO$_4$ and transferred quantitatively to 100 ml volumetric flasks. The solutions were stored in plastic bottles and used for the analysis of Al$^{3+}$, Ca$^{2+}$, Mg$^{2+}$, Ti$^{4+}$, Na$^+$ and K$^+$.