BENEFICIATION OF DIFFERENT SIZE FACTORS OF SOILS DEVELOPED ON THE EPPAWALA APATITE DEPOSIT BY BURIAL IN SULPHURIC ACID RICH ZONES OF THE MUTHURAJAWELA PEAT DEPOSIT

M.L. Dhammika Perera and Kapila Dahanayake
Dept. of Geology, University of Peradeniya,
Earth Sciences Division,
Institute of Fundamental Studies, Kandy.

Some selected phosphate-rich soil samples from the quarry at Eppawala were separated into +4mm, + 2mm, + 300mm and -300mm fractions. The different size fractions were analysed for their mineralogy, chemistry and solubility using X-ray diffractometry, X-ray fluorescence and wet chemical methods (e.g. determination of P using the Vanadomolybdate Reagent and as a Molybdenum Blue). The samples were buried in the sulphuric acid rich zones of the peat deposit at Muthurajawela for fixed periods of time. The samples so treated were retrieved and the same series of analyses were repeated.

The observations indicate that the coarse as well as fine fractions showed increased solubilities after treatment by burial in acid-rich peat. However the finer fractions so treated have shown more pronounced increases than the coarse ones. This observation is significant in view of the fact that the finer fractions are generally richer in chlor- and fluor- apatite than relatively more soluble hydroxyl apatite and have shown lower solubilities and P_2O_5 contents when tested in the untreated condition.