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FURTHER STUDIES ON THE TRACE METAL CONTENTS OF THE MUTHURAJAWELA PEAT DEPOSIT

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Over 20 samples of peat were collected for trace elemental determinations, from two locations at different depths from the Muthurajawela peat deposit, the largest in Sri Lanka. After acid digestion of the 120 mesh fraction of the airdried samples, analyses for copper and manganese were made spectrophotometrically. The average values were higher at location A, (Mn 40 micro g/g and Cu 156 micro g/g) and thus this location was selected for detailed studies.

The analytical data reveal the existence of two different environments that had prevailed during the deposition of peat and the correlation of Mn and Cu data indicate a potential use of Mn in palaeo-environmental reconstructions. The high concentration of Mn in the basal semi-merine (lagoonal) clay beds further confirms the sensitivity of Mn as an environmental marker.

The average pH values of peat were found to lie in the range 3-5 and the high GEF (geochemical enrichment factor) emphasizes the use of trace metal abundances in peat bogs as good indicators in exploration geochemistry as well.

Total Fe and Mn were determined spectrophotometrically using 2, 2' dipyridyl reagent and KIO_4 respectively. Cu was determined by the use of the cupric ion sensttive electrode in conjunction with a reference electrode.