C-01 : $H_2O(+)$ AS AN INDEX OF CHEMICAL WEATHERING OF SILICATE ROCKS

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The purpose of this study was to find the variation of the amount of water in internal structure of minerals, $H_2O(+)$, of weathered silicate rocks.

Samples were collected from different types of metamorphic rocks and insitu weathered formations above the particular rock type. Different localities of Sri Lanka were selected for samples collection. The degree of weathering of rocks was identified according to the standard field methods. All samples were pulverised separately by employing the vibrating sample mill, HEIKO Model No. TI-100. About 1 g of powdered sample was kept in a desiccater for about 2 days and then kept in an electric oven for a period of 2 hours. The percentage of weight difference before and after heating was $H_2O(-)$. Then the sample was heated upto 900°C and kept about 30 minutes at that temperature and the weight difference found. The percentage of weight difference was $H_2O(+)$.

The results showed that the amount of $H_2O(+)$ in fresh rock was very low, (1)-and it was increasing gradually from fresh rock to slightly weathered, moderately weathered, highly weathered, completely weathered and residual soil for all rock types. The $H_2O(+)$ in residual soils vary between 12%-15%. Results indicate that the amount of $H_2O(+)$ can be used as a good index of chemical weathering of silicate rocks.