SIMULTANEOUS THERMAL ANALYSIS IN THE CHARACTERIZATION OF DOLOMITES

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The best known dolomite occurences of Sri Lanka have been surveyed and samples analysed for their characterization by thermal methods. Over sixty samples from about fifteen localities were selected and subjected to Simultaneous Thermal Analysis (STA) under similar experimental conditions.

The STA method is a versatile and convenient method of analysis for dolomites, when compared with other instrumental methods and also wet chemical analytical methods because of its simplicity, capability of identifying various mineral forms occuring in dolomites and the ability of giving a quantitative estimation of each of the identified mineral forms simultaneously.

Most dolomites were found to be calcitic. Free calcite was also present in varying quantities together with low concentrations of free magnesite in some samples.

Quantitative estimation was made on the basis of Thermogravimetric (TG) curve. The endothermic peak which represents the dissociation of dolomitic $CaCO_3$ can be used to determine the free $MgCO_3$ and dolomitic $MgCO_3$ content separately by the use of lattice balancing method. It has been observed that the results computed on the lattice balancing method agrees with the results obtained directly on thermogravimetric (TG) and derivative thermogravimetric (DTG) curves, when the free $MgCO_3$ content of the sample is higher than 5%, approximately. Free $MgCO_3$ dolomite $MgCO_3$ dolomite $CaCO_3$ contents were determined by the STA method and variation of the above, with each locality examined is discussed.