Paper B7

Rare Earth Elements (REE) resources potential in weathered granitic rocks in Peninsula Malaysia

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In this study, a potentiality for ion-adsorption REE deposits in Malaysia is examined. Since weathered granites are well developed because of a tropic climate with high temperature and high humidity in Malaysia, mineralization of ionadsorption is expected. Fresh and weathered granitic rocks were collected in Malaysia and these samples were analyzed in order to evaluate REE resources potential in Malaysia. Powdered samples were analyzed contents of major and the traces of elements by X-ray Fluorescence Spectrometry (XRF) and Inductively Coupled-Mass Spectrometry (ICP-MS). Though the volatile components such as moisture and carbonate cannot be analyzed by XRF, LOI (Loss on Ignition) allows to measure wt% of volatile components. An average ∑REE content of fresh granites is 267ppm and an average ∑REE content of weathered crusts is 217 ppm. In addition, averages of LREE/HREE and Th+U (ppm) are 13 and 64 ppm. It can be observed that the more REE concentration, the more radioactive elements concentration. At Lumut (Manjong), weathered crusts were developed well and high REE concentrations were observed. The ∑REE content of China ion-adsorption type deposits varies from 500 ppm to 2000 ppm while the highest ∑REE content of Lumut is 763 ppm (+Y 844 ppm).

Warta Geologi (Newsletter of the Geological Society of Malaysia), Vol. 36, No. 2, April-June 2010