

## **Analysis of altered biotite in granitic saprolite at northern Abukuma, Fukushima Prefecture - Contribution to forensic geoscience**

# Ritsuko Sugita[1]

[1] NRIPS

Coarse grained granitic saprolite is widely distributed in Japan. It contains a large quantity of kaolin minerals and it makes difficult to distinguish soil by the conventional clay mineralogical method using bulk soil for the purpose of forensic discrimination. Though the genesis of such granitic saprolite is still unknown, it is considered that there is a strong influence of hydrothermal alteration as well as weathering. Altered biotite in coarse grained granitic saprolite collected in Tamura City, northern Abukuma, Fukushima Prefecture was examined by X-ray diffraction to understand the nature of alteration. The studied area was widely covered by granitic saprolite with association of a small amount of fresh granitic rocks.

Altered biotite was handpicked under the stereomicroscope and washed in distilled water by ultrasonication to remove particles of clay minerals on the surface. It was powdered in an agate mortar and then saturated with magnesium or potassium to prepare oriented specimens.

As a result of X-ray diffraction, a long spacing reflection at 24 angstrom was detected in some samples. Samples with the reflection were distributed in a region and it suggests there is a regional difference in the studied area.

The result also suggests that analysis of single mineral species would provide useful information to forensic discrimination of soil.