## Difference in sub-surface geological structure of the Suiyo caldera: geochemical investigation

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Sulfide mounds and volcanoclastic sands were collected from several localities in the Suiyo Caldera. Major and trace element compositions of these samples and their sulfur isotope compositions were determined. These new geochemical data were compared with data from the sub-surface drilled core materials. It is found that the geochemical data are clearly reflecting the sub-surface geological structures.

Chemical compositions of mounds and sands are fundamentally controlled by mineral faces. High concentrations of Cu and Zn are typical characteristics of the central samples. On the contrary, the eastern samples contain more Pb than these of the central samples. Mo and U are often concentrated in the eastern sand samples, possibly related to the biological mediation. High Au concentrations (10000ppb) are common feature in both regions. Sulfur isotope analyses were performed on sulfides in BMS core samples, surface sands and mound samples. The contrast in isotope compositions was found between the eastern and central samples: the eastern samples are homogeneous in sulfur isotope compositions and the central samples are heterogeneous. These geochemical differences were most likely reflecting the difference in sub-surface geological structures.