Geochemistry of Kieslager Ores in Shikoku, southwestern Japan

Kazunori Hatsuya[1], Kosei Komuro[2]

[1] Science and Engineering, Tsukuba Univ, [2] Geoscience, Tsukuba Univ

Kieslager deposits, i.e., Besshi type massive sulfide deposits, occur in the outer zone of southwest of Japan. Kieslager ores samples from 16 localities in the Sanbagawa metamorphic belt, 1 locality in the Mikabu greenstones, 3 localities in the Chichibu belt, and 4 localities in the Shimanto belt in Shikoku were analyzed.

The ores are classified into 4 types: the compact massive ores, the massive ores, banded ores and the disseminated ores. The compact massive ores enrich in sulfide ore component such as Cu, Fe, Cd, Ag, Bi, Zn, In, Co, Mo, Pb, As, Tl, and Sb, whereas the disseminated ores enrich in detrital component such as Rb, Sr, Ba, Al, REE, Th, Y, Cs, Sc, Ti, Li, Be, Mg, Al, K, V, Ca, Mn, Ga, Cr, Ga, U, and P.

The Kieslarger ores have a wide variety of REE pattern, being closely related with ore types. The compact massive ores with low detrital components have low REE content with weak Ce negative anomaly and positive Eu anomaly. On the other hand, the disseminated ores with higher detrital components have higher REE contents with negative Eu anomaly. On the basis of the results, the formative environment and geological settings of the Kieslager deposits will be discussed.