

Behavior of bio-essential elements during hydrothermal alteration of volcanic rocks at the Toyoha mine, Hokkaido, Japan

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Trace bio-essential elements of B, P, Mn, Mo, Zn etc. are necessary for metabolism of biological activity. Activity of microorganisms living around hydrothermal vents may be controlled by trace bio-essential elements flux in hydrothermal system. In order to examine the behavior of trace bio-essential elements during hydrothermal alteration of volcanic rocks, concentrations of trace elements was determined on hydrothermal altered rocks from Toyoha mine, Hokkaido, Japan. By observation with EPMA, it became clear that phosphate minerals around clay and apatite in pyrite have been formed from hydrothermal solution. Such a case, it is suggested that surface of pyrite, clay minerals may be very important to connect between microorganisms and hydrothermal fluid.

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