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資源地質学の現状と将来 Perspectives on resource geology

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Here I present several examples of my current researches on resource geology. One is a research on a new type of submarine mineral deposit that may potentially produce huge amounts of rare-earth resource. Last September, a "rare-earth shock" accompanied the announcement that China would reduce its exports of rare-earth elements to the West. The newly-discovered mineral deposit may break such a concern about a deficient supply of rare-earth resource to the world in the future. Secondly, I discuss about a genesis of Besshi-type Cu deposits in the Sambagawa metamorphic belt in Japan. The Besshi-type Cu deposits are strata-bound volcanogenic massive sulfide deposits that were the ancient counterparts of modern Cu-rich seafloor massive sulfide deposits and were formed/preserved as products of environmental changes of the Earth's surface. Finally, I present a new concept on origins of hydrothermal deposits in the Japanese island arc. These hydrothermal deposits in the island arc crust may have been directly formed from slab-derived fluids in the deep crust.

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