[EJ] Evening Poster | S (Solid Earth Sciences) | S-RD Resources, Mineral Deposit & Resource Exploration

[S-RD33]Resource Geology

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Ore deposits consisting of supracrustal concentrated valuable elements and minerals result from the Earth's dynamics including magmatism, hydrothermal activity, metamorphism, and weathering. The formation of ore deposits is also closely associated with global environmental changes and biological evolution in the Earth's history. Involvement of different academic fields in Earth Science including Geology, Petrology, Mineralogy, and Microbiology is required to understand the genesis of ore deposits. The filed of Resource Geology is essential not only for efficient exploration and development of ore deposits but also for better understanding and assessment of hazardous elements that may be caused by resources development. This session widely covers various topics of field investigation and observation, laboratory experiments, theoretical calculation, development of analytical methods and others related to the supracrustal migration and concentration of elements.

[SRD33-P09]Coherent-type accretionary complex origin of " Besshi type cupriferous iron sulfide deposits", Cretaceous Sanbanawa belt, Japan

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Recent studies focusing on the Besshi type deposits which contain valuable information to unravel geology of the Sanbagawa belt are scarce except for Nozaki et al. (2013) due to abandonment of all mines. In this paper we discuss accretion history of the Besshi type deposits together with recently well clarified geology of the Sanbagawa belt.

Accumulated Sanbagawa and adjacent zircon data together with micro fossils clearly demonstrate that the Sanbagawa belt was not formed in the rifted basin, but derived from typical coherent-type accretionary complex in origin. The Sanbagawa belt is highly deformed sub-horizontal thin tectonic slice with over-recumbent ductile folding occurs with highest P-T core of 20-25kb and 700-800℃ with southward vergency of folding axis. Unravelling the highly ductile folding makes us the original duplex structure under the deep subduction zone (Okamoto et al., 2000) where descending Izanagi slab was underplated against the hanging wall of South China craton. The underplated oceanic crust capped by trench turbidite remains ocean plate stratigraphy even though highly deformed with aspect ration1:1,000 (Toriumi, 1982).By unfolding of isoclinally folded thin platy Besshi deposit, the following ocean plate stratigraphy is reconstructed; basic schist having MORB affinity–sulfide ore –quartz schist – pelitic schist. Among the Besshi type deposits in the Sanbagawa belt, large deposits which produced over 50,000 t of Cu such as Besshi, Ikadatsu, Shirataki and Sazare deposits are restricted to the lowest horizon of the upper member of the Minawa formation. Accretion of oceanic crusts containing sulfide deposits to hanging walls is caused by propagation of a decollement into deeper

part of the oceanic crust.

References

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