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Re-Os age of Besshi-type sulfide deposit associated with in-situ basalt as an age constraint for ridge subduction

Tatsuo Nozaki^{1*}, Yasuhiro Kato², Katsuhiko Suzuki¹, Yutaro Takaya², Ken Nakayama³

¹JAMSTEC/IFREE, ²Univ. of Tokyo, ³Nittetsu Mining Consultants Co.,Ltd.

We report two Re ages from the Makimine and Shimokawa Besshi-type massive sulfide deposits distributed in the Northern Shimanto Belt. These Besshi-type massive sulfide deposits are characterized by close association with an in-situ basalt whose geochemical composition is similar to those of mid-ocean ridge basalts and sandstone/mudstone directly overlie massive sulfide layer, indicating that the Makimine and Shimokawa Deposits were formed in the shelf sea covered by terrigenous clastic rocks. We present that the Re-Os age of these Besshi-type deposits will be a powerful tool to determine a timing of the ridge subduction to the paleo-Japanese Island in the Late Cretaceous.

Keywords: Re-Os age, Besshi-type massive sulfide deposit, ridge subduction, Makimine Deposit, Shimokawa Deposit, Northern Shimanto Belt