

New U-Pb ages of the Nakanogawa Group in southern Hidaka Belt, northern Japan

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Two arc trench systems have been recognized by using paleomagnetic data in the Hokkaido Central Belt, northeast Japan, during Late Cretaceous to Early Paleogene: the Paleo-Japan and the Paleo-Kuril arc-trench systems. The Hidaka Belt is composed mainly of Paleocene turbidite facies, with a small amount of hemipelagic sediment and melange facies. These sediments accumulated near the trench area, later composed accretionary bodies in the two arc trench systems. The Nakanogawa Group is typically exposed on the southern side of the Hidaka Belt and so far of many researchers have believed that this group was protolith of Hidaka metamorphic rocks. Especially depositional age of the Nakanokawa group has been unclear because there were limited point of radiolarian fossil ages (Paleocene to Early Eocene) and only two fission track dating of acidic tuff ($50.4 \pm 1.2\text{Ma}$, $47.6 \pm 1.3\text{Ma}$) still now (Nanayama, 1992; Nanayama and Ganzawa, 1997).

We have taken two samples of turbidite sandstone and two samples of acidic tuff from the top and bottom horizon. After separating euhedral zircon grains, we tried to measure U-Pb age by using the LA-ICP-MS method. As a result, the distribution of the following three ages revealed.

- (1) 66~53Ma as young ages group (euhedral zircon of high Th/U ratio from igneous rocks)
- (2) 73.9, 156, and 334Ma as intermediate group
- (3) 2621, 1800Ma as rework zircon group (purple zircon)

In conclusion, the depositional age of turbidite facies of Nakanokawa group may be considered ca. 53Ma (Early Eocene) because the youngest euhedral zircon grains are contained in these four samples in common.

(References)

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