

Geological insights into formation of Conrad Rise, Southern Ocean: Preliminary geological results of R/V *Hakuho-maru* KH-19-1 cruise

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Conrad Rise is one of plateaus situated at the Indian-sector of the Southern Ocean. Origin of the rise are considered to be a sort of the Large Igneous Provinces or hotspot. Previously Borisova et al. (1996) reported alkaline igneous rocks which have similar geochemical signature to the Kelgueren Plateau. However, detailed investigations have not been performed until our recent study. We performed geological and geophysical investigations during three R/V *Hakuho-maru* cruises, KH-10-7, KH-16-1, and KH-19-1. Particularly, we had five dredge operations during KH-10-7 and KH-19-1 cruises and obtained geological (and biological) materials that have important keys to understanding the origin and development of Conrad Rise. Geological materials collected during KH-10-7 cruise had already reported by Ishizuka et al. (2011), Sato et al. (2012), and Kobayashi et al. (2013). In this presentation, we report preliminary results of recovered geological and biological materials during KH-19-1 cruise.

Two dredge operations were performed during KH-19-1 Leg 2 (16 Jan to 12 Feb 2019). Dredge site KH-19-1D4 is situated at one of peaks of unnamed small knoll that is located north of Ob seamount. Approximately 50 kg of geological and biological materials including igneous rocks, metamorphic rocks, and deep-sea coral were recovered. Dredge site KH-19-1D5 is situated at north-south trending spur on the northern slope of Ob seamount. Approximately 50 kg of materials including igneous rocks, sedimentary rocks, metamorphic rocks, deep-sea coral, and living shell were recovered.

References

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