

Geology and Geochemical feature of some ophiolite complexes of the West Mongolia

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Geology and Geochemical feature of some
ophiolite complexes of the West Mongolia
(Hantaishir and Bayankhongor
ophiolite complexes)

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Abstract

Hantaishir, Dzida, Tsagaan Nuur, Bayankhongor, Shishged and Hotol Us ophiolite complexes are situated in Western Mongolia. In this study we investigated Bayankhongor and Hantaishir ophiolite complexes in detail.

The Bayankhongor ophiolite complex is located SW 700 km from Ulaanbaatar city. This complex is 160 km in long and 10-12 km in wide, and its entire configuration is southeast trending. Ophiolite complex is composed of serpentinite melange, gabbro, sheeted dike complex, pillow lava and hyaloclastite breccia. The sheeted dike complex is composed of plagiophiric dolerite and phenocryst free dolerite. Each dike supplied eruptive equivalent. Although ophiolite rocks have mostly tholeiitic composition, some plagiophiric rocks are enriched in K₂O. The rare earth and trace element concentrations of the rocks indicated that rocks were derived from N-MORB.

The Hantaishir ophiolite complex is located W 350 km from Bayankhongor complex. Complex occurs as nappe-structure.

Ophiolite complex is composed of ultrabasic rocks including dunite and harzburgite in lower part and gabbro-pyroxenite series, diabasic dike, pillow-lava and cherty sequences in upper part. The rocks completely metamorphosed. This ophiolite complex shows similar geological feature to Troodos ophiolite complex.