

Comparative study of Upper Zone and Lower Zone of Horoman peridotite complex, Hokkaido, Japan

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The Horoman peridotite complex, Hokkaido, Japan is located at the south end of the Hidaka Metamorphic Belt. It is 8 km × 10 km in size. The Horoman peridotite complex has been considered as a residue of partial melting in mid-ocean ridge at *ca.* 1 Ga. It was uplifted from upper mantle to the lower crust and taken into the Hidaka metamorphic belt when the Northeastern Japanese arc collided with the Kuril arc at 20 Ma. Horoman peridotite complex has conspicuous layered structure. Based on the mode of lithological layering the Horoman peridotite complex can be divided into two zones: Upper Zone and Lower Zone. The Upper Zone is dominated by thin layers, few centimeters to several meters, and has abundant plagioclase lherzolite. In contrast, the Lower Zone consists of relatively thick layers, a hundred meters, and shows repetitions of plagioclase lherzolite - spinel lherzolite - harzburgite - spinel lherzolite - plagioclase lherzolite.

There are many studies of the Horoman peridotite for the last 40 years (e.g., Niida and Takazawa, 2007 and reference therein). However, detailed study of consecutive compositional variation along a section normal to the foliation plane has not been conducted in the Upper Zone yet. In addition, enrichment of incompatible element in the peridotites from Upper Zone is not well known. The purpose of my study in graduation thesis aims to clarify a more detailed characteristics of Upper Zone using abundances of trace elements and incompatible elements of peridotites. I will compare the results from the Upper Zone with those from the Lower Zone. In this poster session, I report the tentative results from my study and discuss the significances of geochemical layering in the Horoman peridotite.

References

Niida, K. and Takazawa, E., 2007, Origin of layering observed in the Horoman peridotite complex, *Japan. Jour. Geol. Soc. Japan*, **113**, Supplement, 167-184.