Japan Geoscience Union Meeting 2010
(May 23-28 2010 at Makuhari, Chiba, Japan)

SCG082-P16 Room: Convention Hall Time: May 24 17:15-18:45

Bulk chemical compositions of blueschists from the Kurosegawa tectonic zone, SW Japan

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The Kurosegawa tectonic zone in southwest Japan consists of Silurian to Devonian sedimentary rocks, serpentinite, amphibolite- to granulite-facies metamorphic rocks, high-pressure/low-temperature (HP/LT) metamorphic rocks, and granite (Isozaki and Itaya, 1990). Blueschists in the Kurosegawa tectonic zone are found as tectonic blocks in serpentinite. These blueschists are generally subdivided into 3 different layers of blue, green and black. The blue-layer has the mineral assemblage of alkali-amphibole + lawsonite + epidote + chlorite + albite + quartz + white-mica. In contrast, the green-layer has the epidote + alkali-amphibole + lawsonite + chlorite + albite + quartz + white-mica assemblage. the black-layer is rich in opaque minerals. According to the careful and detailed chemical analyses of bulk rocks, the blueschists in the Kurosegawa tectonic zone are considered to have been derived from MORB-type basalts and with-in plate basalts. Results of mineral assemblages and bulk chemical compositions show that the blueschists in the Kurosegawa tectonic zone have at least 2-types of original rock compositions.