

ZHAI Qingguo, TANG Yue, HU Peiyuan, XIAO Xuchang and WANG Haitao, 2017. The Beila Ophiolite from the Bangong-Nujiang Suture Zone, Northern Tibetan Plateau. *Acta Geologica Sinica* (English Edition), 91(supp. 1): 51.

## The Beila Ophiolite from the Bangong-Nujiang Suture Zone, Northern Tibetan Plateau

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### 1 Abstract

The Beila ophiolite is located in the middle part of the Bangong-Nujiang suture zone, northern Tibetan plateau. It is a complete ophiolite suite, and plays a key role in understanding the evolution of the Bangong-Nujiang suture zone, as well as the Meso-Tethys Ocean. The Beila ophiolite was composed of peridotite, serpentinite, gabbro, pillow basalt, and minor rodingite. Peridotites comprise mainly medium- to coarse-grained serpentized harzburgites and minor plagioclase-bearing lherzolites and dunites. There are some felsic-ultramafic dykes within the peridotite and they are mainly

pegmatoidal pyroxenites, coarse to fine-grained gabbros, and diabases. Gabbros included isotropic and cumulate gabbros, and they commonly contain minor pegmatoidal gabbros veins. Pillow basalts and basaltic andesites overlaid on the margin of the serpentized peridotites. Rodingite occurs as lenses and/or dykes within the host serpentized peridotites. Zircon SHRIMP U-Pb dating for two rodingite samples yielded the ages ranging from 172 to 164 Ma. Whole-rock geochemical and zircon Hf isotopic data show that the Beila ophiolite shows SSZ-type ophiolite affinity. Finally, we suggest that the Beila ophiolite was generated in an initial subduction process at the middle Jurassic (164–172 Ma).

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