

## HFSE-rich, olivine-spinifex basalt from the Tamba belt, Southwest Japan: Pechenga-type ultramafic volcanism in Permian Ocean

# Yuji Ichiyama[1]; Akira Ishiwatari[2]; Kazuto Koizumi[2]; Yoshito Ishida[3]

[1] Society of Gem & Precious Metal; [2] Earth Sci., Kanazawa Univ.; [3] Earth Sci., Kanazawa Univ

<http://earth.s.kanazawa-u.ac.jp/ishiwata>

Permian basalt showing typical spinifex texture with ca. 10 cm-long olivine pseudomorphs was discovered from the Jurassic Tamba accretionary complex in Southwest Japan. The spinifex basalt occurs as a river boulder accompanied by many ferropicritic boulders in a Permian chert-greenstone unit (Kouchi Unit of Nakae and Yoshioka, 1998; *Kumagawa Quadrangle*). Groundmass of this rock is holocrystalline, suggesting a thick lava or sill for its provenance. Minor kaersutite in the groundmass indicates a hydrous magma. The spinifex basalt, in common with the associated ferropicritic rocks (Ichiyama et al. 2006; *Lithos*, **89**, 47-), is characterized by high HFSE contents (e.g. Nb= 62 ppm and Zr= 254 ppm) and high-HFSE ratios ( $Al_2O_3/TiO_2=3.9$ , Nb/Zr=0.24 and Zr/Y=6.4) unlike typical komatiites. The spinifex basalt and ferropicrite may represent the upper fractionated melt and the lower olivine-rich cumulate, respectively, of single ultramafic sill (or lava) as reported from the early Proterozoic Pechenga Series in Kola Peninsula (Hanski, 1992; *Geol. Surv. Finland, Bull.* **367**, Figs. 6, 10, 11). Their parental magma may have been produced by hydrous melting of a mantle plume that was dosed with Fe- and HFSE-rich garnet pyroxenite. The spinifex basalt is an evidence for the Pechenga-type ferropicritic volcanism taken place in a Permian oceanic plateau, which accreted to the Asian continental margin as greenstone slices in Jurassic time (Koizumi and Ishiwatari 2006; *Island Arc*, **15**, 58-; Ichiyama et al. 2007; *Lithos*, in press). Our report on this olivine-spinifex basalt is submitted to *Island Arc*.