

Igneous rocks about North Myojin back-arc rift zone -mainly acid plutonic rocks-

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On the volcanic front of the Izu-Bonin Arc, Kuroko type hydrothermal deposit such as Myojin knoll caldera, Myojin-sho caldera, Suiyo seamount, Mokuyo seamount are distributed. In back-arc area, it is only the Hakurei hydrothermal deposit of the Bayonnaise knoll. It is known that the large-scale Kuroko deposit exists a lot in back-arc area in the Northeastern Japan Arc. So, it would be submarine geological survey has carried out in the Northern Myojin back-arc rift zone and, Bayonnaise area from 2009 to 2011 by research ship "Boseimaru".

In the Bayonnaise knoll (31 degrees 58 minutes N; 139 degrees 45minutes E), hydrothermal deposit, dacite, felsic pumice and carbonate rocks, are sampled.

In the north side of the third-Bayonnaise knoll which located to Bayonnaise knoll for southwestward about 20km, basalt, felsic pumice and acid plutonic rocks(longer axis about 40cm) were sampled from the elliptical basin (East-West about 1.7km, north-south about 1km). This is the first report the acid plutonic rocks were picked in back-arc area.

1) Rhyolitic and basaltic volcanic activities with bimodal volcanic activity in this area, were recognized.

2) Acid plutonic rocks are the low K series tonalite which was compared with the middle crust of the Northern Izu-Bonin Arc. Acid plutonic rocks would be distributed middle crust in the back-arc area.

Keywords: Bayonnaise knoll, back-arc, acid plutonic rocks, North Myojin back-arc rift zone, tonalite, middle crust