

Geology of the Tamanoura region of the Goto Island, Nagasaki Prefecture

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Tamanoura region, southwestern part of Fukue Island, Nagasaki prefecture, is composed of Early to early Middle Miocene sediments (Goto Group), green volcanoclastics, white rhyolite (12.4±0.6Ma), and granites (13.2±1.0Ma)(Kawata et al.,1994). We did mapping more than 10km*6km area in Tamanoura area, and identified stratigraphy and geological structure in the Goto Group.

Based on the mapping, this region is divided into 7 blocks by fault and discontinuous of stratigraphy; Tanna, Tamanoura, Kawaraura, Otonase, Imochi, Ohsezaki, and Daiho Blocks from north to south. The Goto Group is composed mostly of sandstone and shale, and it is divided into 5 formations in ascending order; A to E Formations. A, B, D, E Formation composed of sandstone layer in lower part and alternation sandstone and siltstone in upper part. Only C Formation is dominated in mud layer, so here it became key formation. Total thickness of the Goto Group in this region is 650m.

Two types faults are identified; 1) NE-SW trending, NW dipping normal fault with fold (F1). This is inner structure of blocks. F1 has two types characterized by the thickness of high angle strata, which is part of fold deformed by F1. One has high angle strata of several ten meter in thickness (F1a), and the other has high angle strata of several hundred meter in thickness (F1b). 2) Strike-slip fault (F2) which divides this region into several blocks. One divides Imochi Block and Ohsezaki Block is NE-SW trending right lateral strike-slip fault, and its lateral displacement is estimated at more than 700m. Also partially another is WNW-SES trending left lateral strike-slip fault.

These results indicate that the Goto Group in Tamanoura region has more than 650m in thickness, and 5 formations which is mainly fining-upward successions, and there are two types structure which one(F1) is made in NW-SE trending extensional field and the other(F2) is NE-SW trending right lateral strike-slip field.