

## STRUCTURALLY CONTROLLED KAMOGAWA GRABEN IN THE SOUTHERN BOSO PENINSULA, JAPAN, CLARIFIED BY SESIMIC REFLECTION PROFILING

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The southern part of Bosu Peninsula, central Japan, consists of the Miocene to recent accretionary complexes and the forearc basin deposits severely faulted and folded, situated near the triple junction of oceanic plates. East-west placed topographic features represented by Kamogawa Graben, are dominant in this area, the cause of which has been problematic whether those have formed by recent fault activity or not, without clear and cumulative tectonic geomorphology.

We carried out shallow seismic reflection exploration with the 25m-spaced recording system using a vibroseis along the 6.3km long survey line truncating the structure, to examine the implication of geologic and geomorphologic structure. This seismic survey revealed that the southern limit of the graben geologically coincides with the reverse fault (the Sorogawa fault) with high angle (50-60 degrees) and some reverse fault dipping south are dominant in the central graben (Figs.6 and 7). Geologic investigation in the northern margin of the graben also shows the north-tilted monocline. This geologic structure suggests that the growth of reverse faulting could not generate the graben, but the tilted block mountains. This is supported by the existence of the highest peak (Mt. Atago, 408m asl.) in the graben. The main part of the so-called Kamogawa Graben is dominantly composed of Miocene muddy stone (Hota Group) including Paleogene mud stone and serpentine, which seismically do not indicate strong reflection layers. This muddy zone is estimated strongly sheared and weathered, compared with northern sandy stone (Upper Miura Group) and the southernmost Hota Group.

The result by scattering profile in the same line also indicates that the Furubo Formation of Hota Group has relatively high semblance value compared to the Mineoka Group and the Upper Miura Group. The refraction analysis suggests that the 3.25 km/s layer of Mineoka Group dips to the south. Such failure mudstone leads to vertical lowering erosion to form the lowlands. We concluded that the seeming Kamogawa Graben is not tectonic in origin, but is structurally controlled obsequent fault-line scarp (Otsuka, 1949) exaggerated by differential erosion working various geologic units and physical properties of rocks.