

# Map-scale structure of the Kure melange, The Cretaceous Shimanto belt, Shikoku, Japan.

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Asymmetric shear deformation fabrics observed in brittle rupture zone and ductile shear zone are also observed in melange zones. On the basis of these occurrences of melange, melange zones are considered to be a large-scale fault shear zone formed along subduction zone.

Deformations developing during melange formation are observed as composite planar fabric such as P-Y structure and Riedel shear plane both in outcrop and microscopic scales. Predominant Y planes in the fabric record shear of plate boundary. Slickenside observed as scratches on Y plane records shear directions of plate boundary. Predominant foliation of melange is almost east and west in the whole Shimanto zone, generally. But those deformations are modified post-melange deformations such as thrustings and foldings.

In the coastline of Kure melange, good outcrops are exposed where continental sediments and oceanic materials are repeatedly observed. Such incorporation process of oceanic and continental materials is important to understanding of mass transportation process in subduction zone. In the Kure melange, however, it has not been clear that the time-space relationship between a map-scale structure and the outcrops of coast line yet. In addition, because it is suggested that the underplating of oceanic materials is one of candidate processes as onset of seismogenic zone, the outcrops along coastline may be also significant to understand processes around seismogenic front. Therefore, the aim of this study is to reveal the setting of the outcrops around the map-scale geological structures, which is a primal step to discuss about seismogenic processes.

Structural analysis was carried out in the Kure melange. As a result, one sequence duplex structure was identified, which represents a sinistral sense of duplexing in the horizontal surface. In the south, map-scale fold was also identified, which may have a highly dipping fold axis. The outcrops along coastline are located along a roof thrust of the duplex structure. In addition, the outcrops may be the area where ramp thrusts converge to the roof thrust on the basis of linkage of lithologies. By fluid-inclusion analysis of mineral vein along roof thrust, the temperature is estimated around 151 degree centigrade. This temperature suggests that the roof thrust was formed within the temperature which limits seismic zone.