Fluid conduit related to geological structure in the Yokonami melange, the cretaceous Simanto belt, Shikoku, Japan.

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In a subduction zone, since a sediment is buried in connection with plate movement, it is quickly buried compared with a common depositional basin. This rapid burying generates the ultra high pressure of fluid, and this pressure is urged to discharge of the water which exists in a unlithified sediment.

Because the fluid movement in the deep subduction zone is considered to be related to the interplate earthquake, it is important to understand where the conduit of fluid exists as the first step which understands such a natural disaster phenomenon.

A geologic body which has a vein as a past fluid conduit is outcropped on land now. The geologic body is an accretionary complex. Through the fluid dewatering and dehydration processes along the plate boundary, accretionary complexes are built by stacking of sediment and oceanic material.

In order to understand the dewatering and dehydration process of the fluid in a subduction zone, the Yokonami melange of the Cretaceous Shimanto belt, Shikoku, which is such an accretionary prism was investigated in this study, and the relationship between geological structure and a vein distribution is examined.First, in order to know geologic structure in detail, the route map was created on 1/250 scale. Next, the distribution of a mineral vein was measured in every meter. At the same time, the detailed columnar section in every meter was made. In the figure of frequency of mineral veins and distance, four remarkable concentrations of veins have been represented. These peaks seem not to depend on lithology.

According to former Sakaguchi's research, facing of bedding of sediments was reported on the basis of the depositional structure of sandstone, and he concluded that this investigation area contains the folding consisted of anticline and syncline repeating by a unit of 2 times. However, since there was little data near a facing inversion axis, in order to determine the position precisely , the facing data was added in this study.

The relationship between the positions of facing inversion axis and vein concentration was examined. The result represents the good accordance surprisingly. The location of vein concentration is clearly corresponded to that of facing inversion axis.

From this, if this investigation area has folding, a mineral vein can be concentrating on a folding axis. This result is not reported until now but is new discovery. Even if it has not folding, it is so certain that the mineral vein is concentrating on the zone which is the location of facing inversion axis.