Japan Geoscience Union Meeting 2012
(May 20-25 2012 at Makuhari, Chiba, Japan)

SCG60-02 Room:105 Time:May 24 09:15-09:30

Chemical and mineralogical characteristics of the slip zone within the Boso accretionary complex

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To understand the chemical and mineralogical characteristics of the slip zone within subduction-boundary fault and its branching thrust, we investigated a major reverse fault in a fossil accretionary prism, the Emi Group (burial depth 1 to 4 km), Boso Peninsula, Japan. We examined the slip-zone rocks and the surrounding host rocks microscopically, and analyzed their trace elements, isotopes, and mineralogy. Using the X-ray diffraction spectrum, smectite, illite, and their mix layer were decreased within the slip zone. In addition, anomaly of the fluid-mobile trace elements such as Li, Cs, and Rb was observed showing that the slip zone experienced frictional heating of $>$350 degree celsius caused by high-velocity sliding. In this presentation, we show these preliminary results and discuss the causes of the characteristics and their implication on the seismogenesis and earthquake slip