

Solid-fluid interaction in the fault zones inferred from trace element and isotope compositions of the TCDP Hole B core samples

Tsuyoshi Ishikawa[1]; Masaharu Tanimizu[2]; Kazuya Nagaishi[3]; Jun Matsuoka[3]; Osamu Tadai[3]; Wonn Soh[4]; TCDP Hole-B Research Group[5]

[1] Kochi Inst. Core Sample Res., JAMSTEC; [2] KOCHI, JAMSTEC; [3] MWJ; [4] JAMSTEC; [5] -

Trace element concentrations and Sr and Pb isotope ratios were determined for the core samples recovered from the Taiwan Chelungpu-fault Drilling Project (TCDP) Hole B. The samples analyzed were taken from the core with extra care to avoid contamination from experimental environment. Preliminary data for three main fault zones (1136mFZ, 1194mFZ and 1243mFZ; Hirono et al., 2006a) show considerable variation in some of the fluid-mobile element concentrations and isotope ratios, and they correlate to the data for magnetic susceptibility and inorganic carbon content reported previously. This suggests that the observed chemical variation may result from solid-fluid interaction in the fault zones induced by frictional heating during the earthquake.