Areal distribution of reddish water springs possibly related to active faults in Hanshin area, Kinki district, Japan

*Kohei Kazahaya¹, Hiroshi A Takahashi¹, Tsutomu Sato¹, Masaaki Takahashi¹, Michiko Ohwada¹, Masaya Yasuhara², Noritoshi Morikawa¹

1. Geological Survey of Japan, AIST, 2. Rissho University

Many reddish water springs have been found in and around Hanshin area, Kinki district. The red to orange color is due to colloidal ferric (Fe³⁺) ion which is deposited as limonite where tufa is often found. We have been conducting areal survey of this reddish spring since 2003. ferric ion comes from the product of CO2-rock interaction (strong weatherng). Here in Hanshin area, the CO2-bearing Arima-type thermal water upwells and exsolved CO2 as bubbles further ascends to the shallow environment. Areal distribution shows that reddish springs often occur at active faults, indicating that CO2 is ascending through the faults.

Keywords: reddish water spring, active fault, areal distribution