

## Preliminary paleomagnetic results from the manganese wad deposit at the Sanbe hot springs, Shimane.

\*Kazuo Kawasaki<sup>1</sup>, Sunao Kobayashi<sup>2</sup>

1. School of Sustainable Design, University of Toyama, 2. Department of Earth Sciences, University of Toyama

Paleomagnetic results are reported for the manganese wad deposit at the Sanbe hot spring, Shimane, Japan. The hot spring is located at the foot of Mt. Sanbe, an active volcano, which erupted three times within last 10000 years, i.e., at ~1300 years ago, ~3600 years ago and ~5600 years ago. The study area consists of two layers: an upper ~2.1 m thick manganese (Mn) wad layer and a lower ~30 cm thick tephra layer. Oriented specimens were collected with 7 cc non-magnetic plastic cubes at 15 levels from the Mn wad layer between ~1.6 m and ~2.1 m from the surface and at 12 levels from the tephra layer.

Paleomagnetic analyses on 86 Mn wad specimens and 73 tephra specimens isolates a stable characteristic remanent magnetization (ChRM) in mainly maghemite in the tephra specimens only. The mean ChRM directions at each sampling level likely retains paleosecular variation, and a paleomagnetic age of ~2200 years B.P. is determined when the mean ChRM directions are compared with the paleosecular variation records for Lake Biwa, Japan. The observed ~2200 years B.P. of the tephra layers provides a minimum age for the deposition of the Mn wad deposit, and therefore the physicochemical condition of the regional hydrothermal system must have been changed after this age.

Keywords: Paleomagnetism, Manganese wad, Quaternary