## Dawn of urban mine in Mesopotamia deduced from chemical and isotopic compositions of floodplain sediments and tablet clays

\*Ryo Anma<sup>1</sup>, Ki-Cheol Shin<sup>2</sup>, Yoriko Yokoo<sup>3</sup>, Takanori Nakano<sup>2</sup>, Masanori Kurosawa<sup>4</sup>

1. Tokushima University, 2. RIHN, 3. Doshisha University, 4. University of Tsukuba

Cuneiform documents describe rituals at clay pits, that they were consecrated with silver, gold, lapis lazuli, beer etc. before taking clay for making figurines. As we investigate, we found that tablet clay itself is enriched in silver, lead etc. compared to the floodplain sediments. This tendency is most pronounced in the tablet clays from the U. Chicago tablet collection. Anomalies in silver and lead concentration in the tablet clay maybe taken as an earthy evidence for the rituals and for the dawn of urban mine. However, at some museums, white powders were used to enhance contrast for photographing. The Chicago samples have different trend in Pb isotopes as well as pronounced enrichment in Ag and Pb. A use of white lead is a possibility.

Keywords: Mesopotamia, Urban mine, clay tablet