


Object Number	K326	Description	Hilt collar in gold, of narrow form, with garnet cloisonné decoration. Catalogue no. 173.
		Sample Description and location.	
		Conservation sample 5-“ black material from area around front cells” tested. Sampled labelled K326-1-3 for FTIR analysis.	

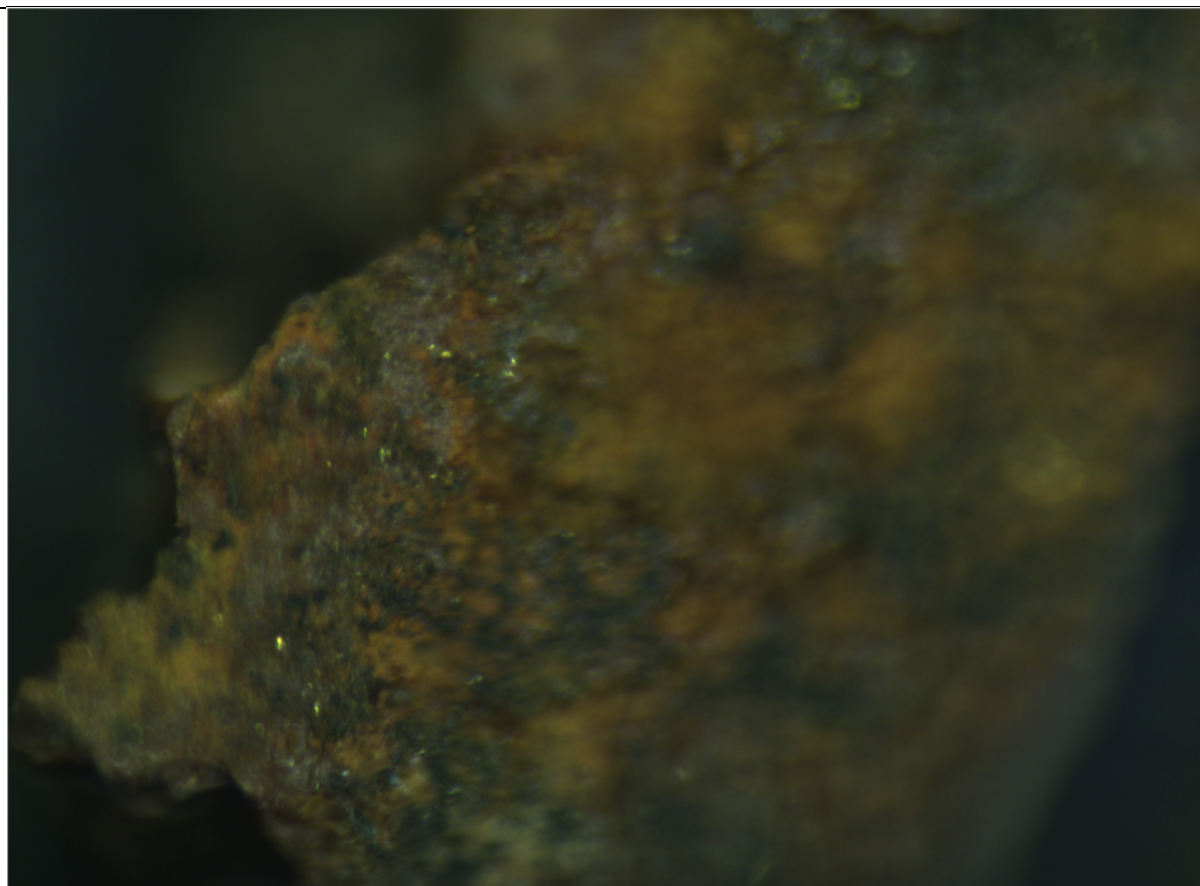


Figure 1. Image showing detail of conservation sample 5.

FTIR Analysis

Comments: The spectrum for K326-1-3 (top, red) indicates that the sample is composed clay minerals likely from the burial environment. Generally speaking, silicates are characterized by a region of strong absorption near 1000cm^{-1} due to Si-O stretching, and a second region of absorption near 500cm^{-1} arising from Si-O bending, often in combination with other cation-oxygen vibrations (Djomgoue & Njopwouo 2013). The sharp band at around 1000cm^{-1} relates to Si-O bonding characteristic of silicate compounds (see bottom, black spectrum for alumina silicate) that form a major component of clay soils.

Representative Spectrum

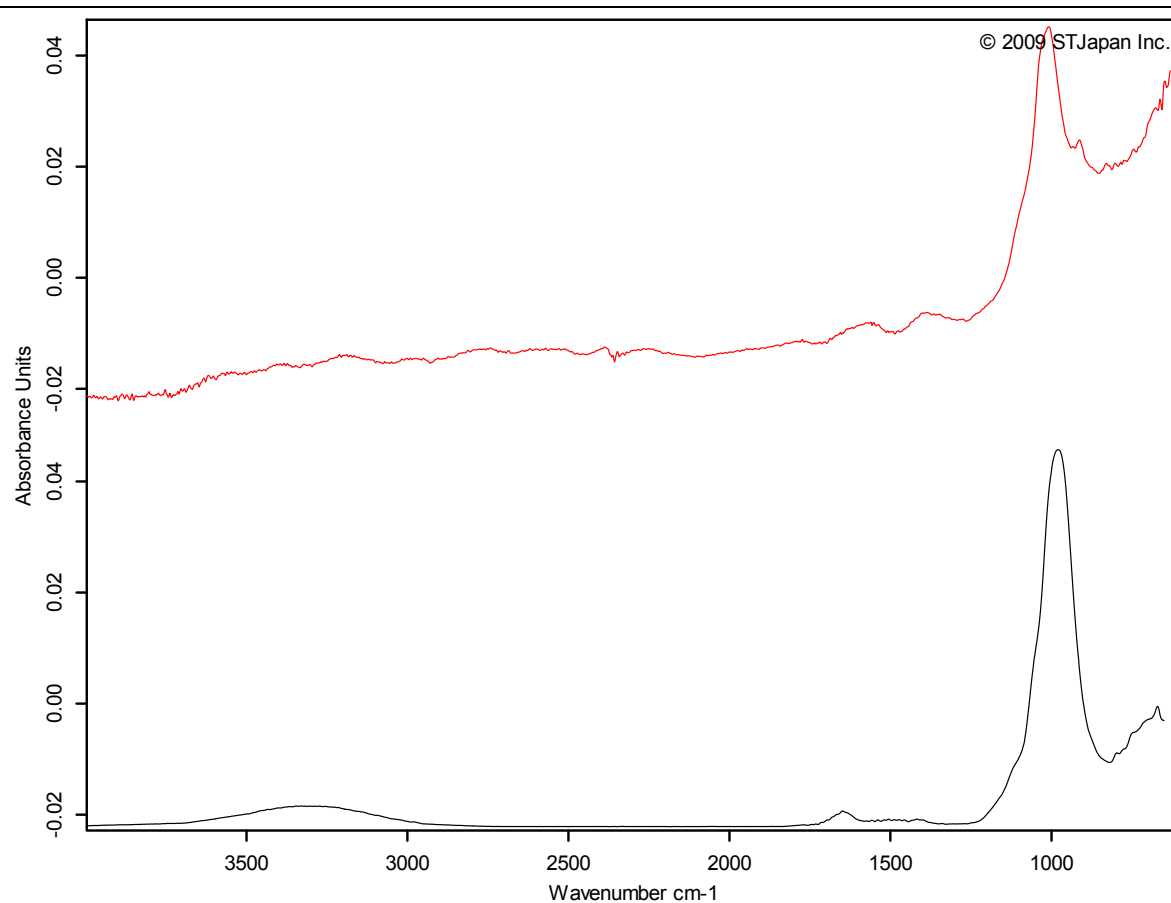


Figure 2: Top (red) K326-1-3. Bottom (black) Alumino Silicate reference spectrum, ST Japan 2009.