Figure 2. Internal corrosion of a firing pin from a Type 72 mine recovered from Cambodia. Arrows point to small pockets filled with yellow-brown iron oxide; circle indicates region of multiple corrosion pockets.

3. Compositional characterization of metal mine parts and corrosion materials

Table 3 is a summary of materials and elements present in the cores and rims of firing pins based on qualitative chemical analyses from EDS as well as texture, color, and reflectivity observations.

The Type 72 mines from Cambodia contain Fe metal pins coated with either an Sn or an Sn-Sb alloy. Other trace elements present in the pins include Hg, which may be a residue from the explosive, Mo, S, Si, Cl, and K. For sample C3, we were able to remove and analyze a circular casing that wrapped around the base of the firing pin and the Belleville spring in the immediate area of the pin. The bottom and top surfaces of this casing were analysed. The casing is a Cu-Ni alloy with a Sb coating on the top surface exposed to the explosive.