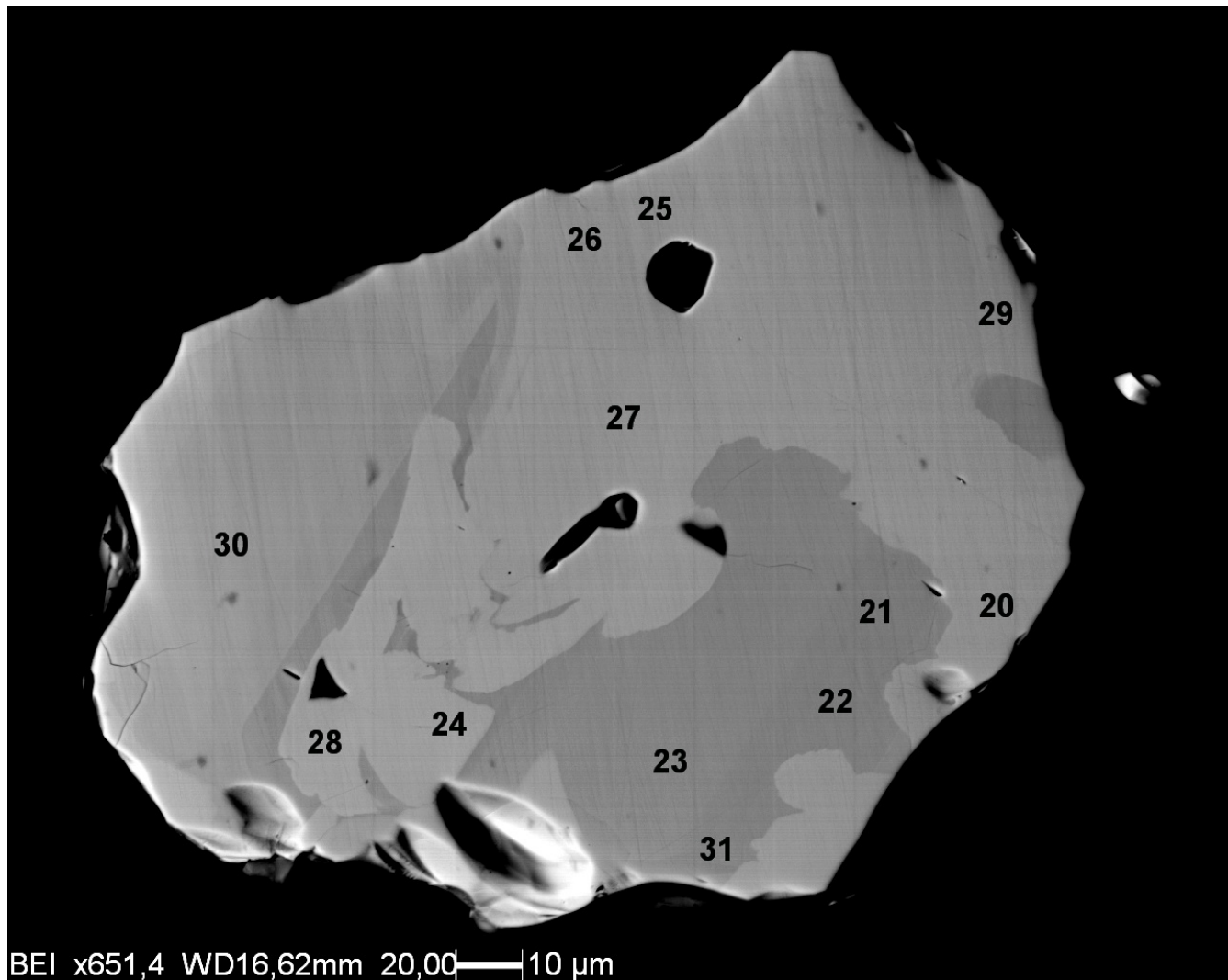


# Figure S1



**Figure S1.** Polished surface of the structurally refined zoned crystal 9 viewed by BSE imaging. The zoning is complex and patchy indicating resorption and recrystallization: brighter areas are characterized by high REE, Nb, and Fe abundance; darker zones are more enriched in Ca, Ti, and Zr. Numbers refer to analytical spots as reported in Table S1. The crystal hosts apatite, zircon, and quartz.