Fahlore analyses from a prehistoric work and settlement site in Kundl, Tyrol

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Between 2018 and 2019, the largest prehistoric area excavation in North Tyrol to date took place in Kundl (district of Kufstein). On an area of about 11,600 m^2 in the Wimpissinger gravel pit, horizons from the 1st millennium BC were uncovered.

The excavated work area offers a unique large-scale insight into the work stages between mining and metal production. The phases of use of this work area extend from the Early Bronze Age to the late Iron Age.

During the excavations, in addition to hundreds of slag remains from the Early and Late Bronze Age, three storage vessels were excavated, which can also be assigned to the Late Bronze Age (Eß, unpublished). Around one of the storage vessels fahlore ore lumps were draped and examined in the context of an origin determination of the smelted ores.

Figure 1. Storage vessel with fahlore wreath (picture: Talpa GnbR 2019)

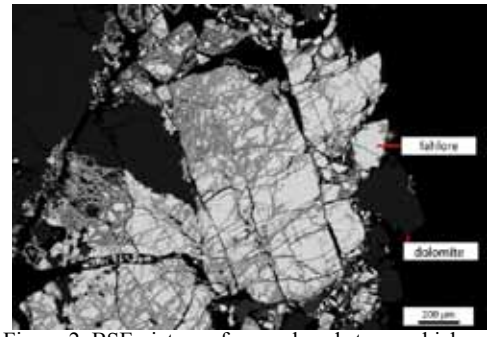

Figure 2. BSE picture of an analysed stone, which was drapped around the storage vessel (picture: L. Oettel 2020)

Electron probe microanalysis of these fahlore minerals were undertaken for putting possible provenance constraints on the ores. Since this examination did not yield a satisfying match within the HiMAT mineral chemical database, the source of the smelted fahlores could yet not be determined. For this reason, additional 37 samples of fahlores were taken from a wide variety of localities/tectonic units (e.g. Northern Limestone Alps, Engadin Window) and examined by electron beam microprobe to increase the chemical database considerably.