

A Study in Blue: Secondary Copper-rich Minerals and their Associated Bacterial Diversity in Icelandic Lava Tubes

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Introduction

Additional EDS spectra of the geological thin sections analyzed with SEM/EDS are shown here. Figure S1 shows additional EDS spectra of the thin section in Figure 7 of the manuscript. Figure S2 shows additional spectra of the thin section in Figure 9 of the manuscript.

EDS spectra were obtained with a windowless Oxford Instruments Ultim-Extreme EDS detector. Point ID measurements (30 s counting time) were acquired at voltage of 20 keV and 1 nA, using Oxford Instruments Aztec software v5.1. For improved spatial chemical resolution in finely zoned domains, an accelerating voltage of 10 keV was used, acquiring the L-alpha intensity of Cu.

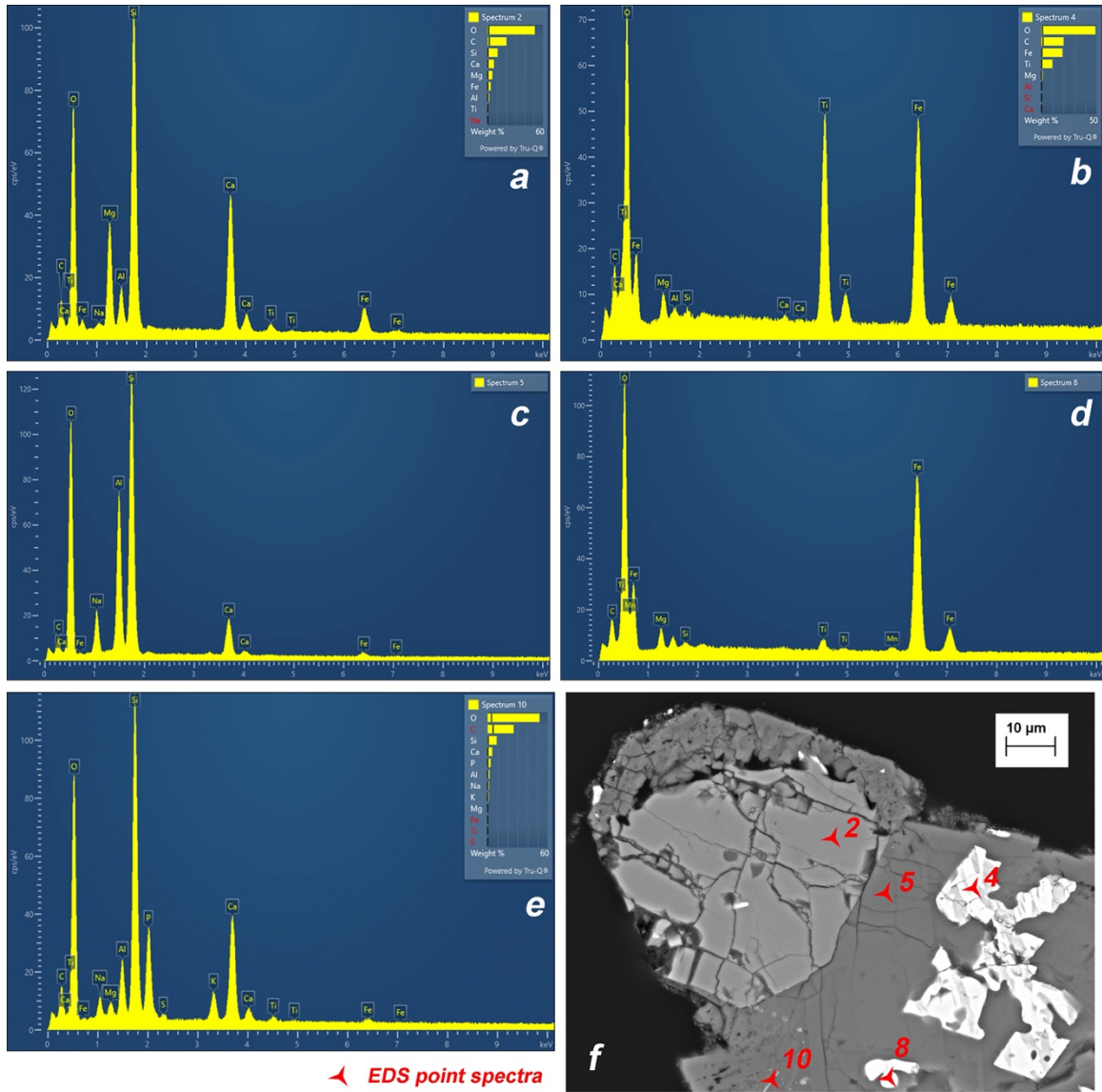


Figure S1. Igneous mineralogy. **(f)** Backscattered electron (BSE) image of sample H7 thin section. **(a-e)** EDS point spectra taken of marked spots in **(f)**, revealing typical basaltic mineralogy: augitic clinopyroxene **(a)**, dendritic titano-magnetite, (oxy-) exsolved into a fine intergrowth of Ti-poor magnetite (white) and ilmenite (slightly less bright) **(b)**, plagioclase **(c)**, magnetite **(d)**, and apatite growth, indicating a highly evolved interstitial melt pocket **(e)**.

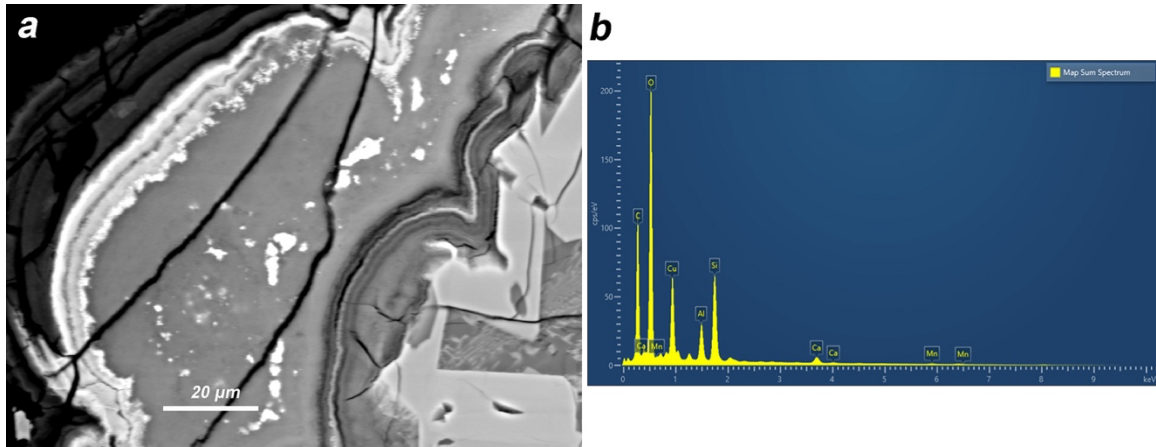


Figure S2. Complex secondary mineral precipitate. **(a)** BSE image of a secondary mineral crust deposited on the edge of the igneous rock in sample B5 thin section. **(b)** EDS sum spectrum of **(a)** showing carbon, copper, and manganese enrichment.