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**Transmission electron microscopy studies of
sulfides, metals, and their alteration products in
CR1 GRO 95577**

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Meteoritic sulfides and metals are sensitive to secondary alteration processes (e.g., aqueous alteration). As such, their alteration products can provide information on the mechanisms and conditions of alteration [e.g., 1–2].

In previous work, the micro to nanoscale features of sulfides and metals in minimally- to moderately-altered CR2 chondrites [3–4] were investigated using transmission electron microscopy. This study builds off previous work and investigates the effects of advanced aqueous alteration in GRO 95577, the only known CR1 chondrite. Analyses were conducted on focused ion beam lamellae extracted from three mineral assemblages present on relict chondrule rims. These assemblages predominantly consist of serpentine, pyrrhotite, pentlandite, and magnetite.

[1] Singerling, S.A. & Brearley, A.J. (2020) MAPS, 55, 496–523. [2] Singerling, S.A. et al. (2024) MAPS, 59, 475–501. [3] Singerling, S.A. & Brearley, A.J. (2018) MAPS, 53, 2078–2016. [4] Singerling, S.A. & Brearley, A.J. (2025) GCA, in review.

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