

Two modes of terrestrial phosphide formation

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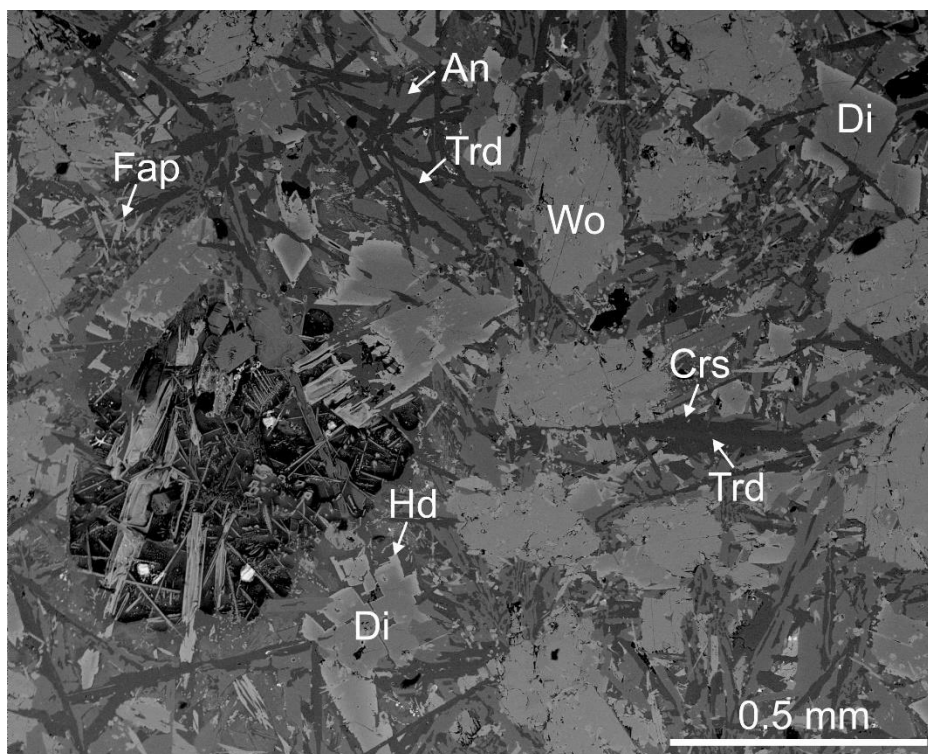


Fig. S1. Paralava from the central part of the body, BSE image. Black rounded area on the left with skeletal and needle-like crystals of pyroxene and fluorapatite is a surface of the cut amygdale. An = anorthite, Crs = cristobalite, Di = diopside, Fap = fluorapatite, Hd = hedenbergite, Trd = tridymite, Wo = wollastonite.

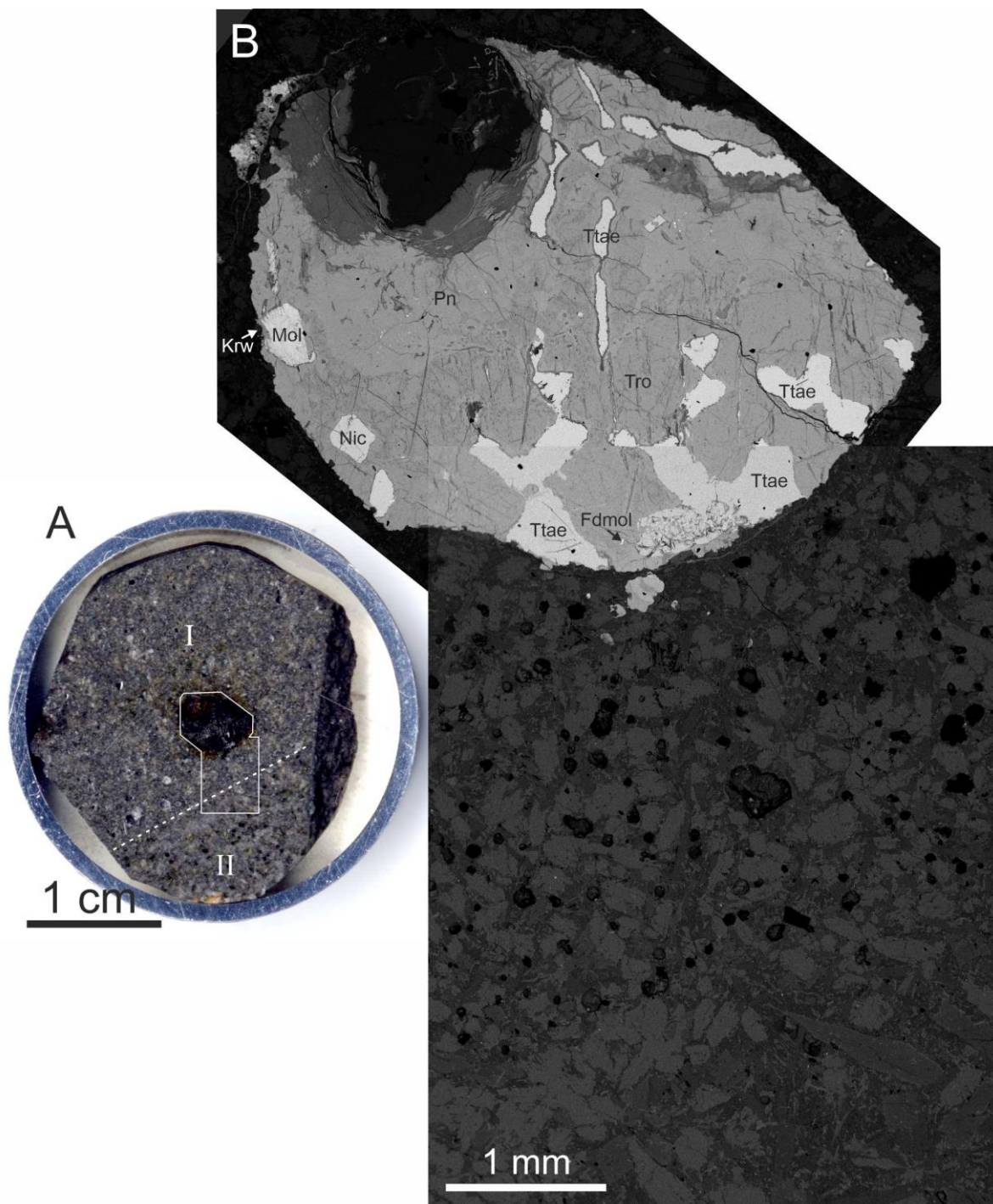


Fig. S2. A – Differentiated sulfide nodule in paralava from the central part of the paralava body. I – Porous zone, II – massive zone. Frame indicates a fragment magnified in Fig. S2B. Optical image. B – Sulfide nodule with nickelphosphide and tetrataenite inclusions confined to the diopside-tridymite-anorthite-wollastonite paralava with increased porosity. In the upper part of the nodule there is a gaseous bubble. BSE image. Tro = troilite, Mol = molybdenite, Pn = pentlandite, Ttae = tetrataenite, Nic = nickelphosphide, Krw = karwowskiite, Fdmol = ferrodymolybdenite.

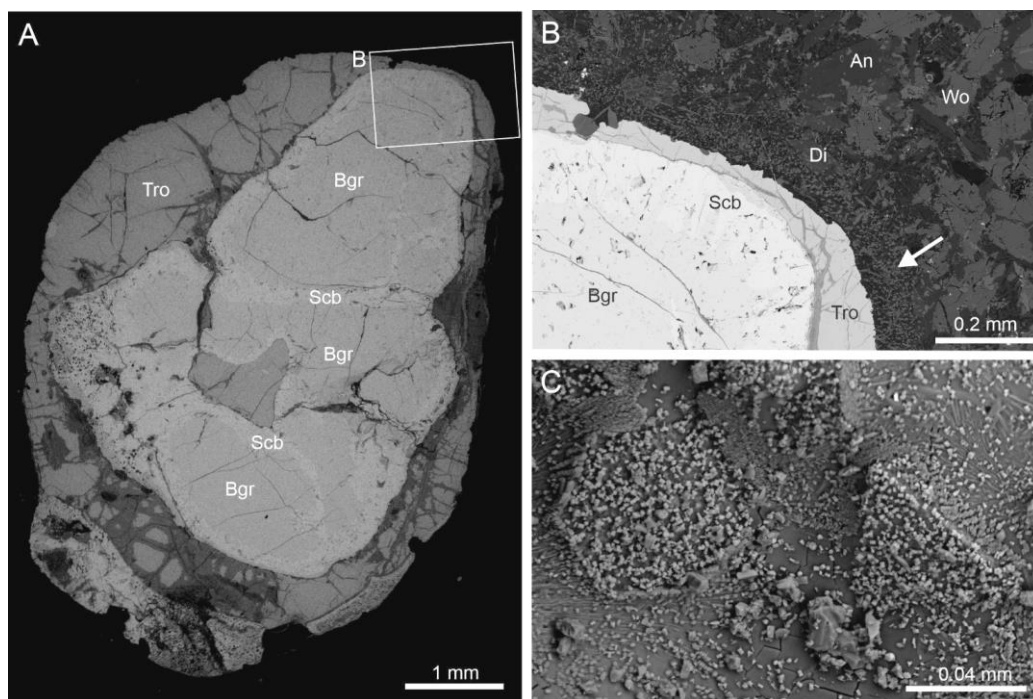


Fig. S3. A – Phosphide nodule with troilite rim. Frame shows a fragment magnified in Fig. S3B. B – Fine-grained hardened zone enriched in fluorapatite around nodule (arrow). C – Surface of hollow channel in paralava composed of glass with inclusions of diopside, anorthite and tridymite covered by small fluorapatite crystals (light). Distribution of fluorapatite emphasizes a form of trigonal crystals of the merrillite group minerals covered by glass. Bgr = barringerite, Scb = schreibersite, Tro = troilite, Di = diopside, An = anorthite, Wo = wollastonite.