News of the Mauri sandstones

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The amphibolite facies Mauri succession, subdivided in ascending order to sandstones (ca. 2 km), felsic volcanic rocks (ca. 5 m) and mudstones ($<$ 500 m), was deposited earliest at ca. 1.88 Ga. It belongs to the youngest supracrustal part of the ca. 1.9 Ga Tampere Schist Belt, in which most of the volcanogenic rocks show arc affinities.

Field observations and reprocessed GSF aeromagnetic map support an interpretation that the Mauri succession is folded in a pair of asymmetric F_1 synclines-anticlines with an E-W trending subhorizontal fold axis and subvertical axial surface; these structures were deformed by a prominent F_2 dextral folding with a ca. SW-NE subvertical axial surface.

The rocks of the sandstone unit contain ca. 20 % polycrystalline pseudomorphs after euhedral phenocrysts/-clasts of quartz but are dominated by felsic fine- and even-grained as well as porphyritic clasts of evident volcanic origin. A minor component is granitic.

The lower part of the sandstone unit is fine grained and characterized by parallel lamination and low-angle cross-bedding. The grain size increases successively upwards and trough cross-bedding, commonly bipolar, as well as hummocky cross-bedding become prominent. A few thin, pebbly, bedding parallel lags are observed in the uppermost 100 m of the sandstone unit. The ca. 5 m thick felsic volcanic unit resting on the sandstone unit is composed of volcaniclastic sandstones and mudstones, which in part show cross-bedding and erosional bases. The mudstone unit overlying the former is characterized by parallel lamination, normal grading and occasional hummocky cross-bedding. The sandstone unit was deposited in a wave-dominated, tidal shallow sea, whereas the mudstone unit was deposited below the contemporaneous fear-weather wave base.

Geochemical analogs suggest that the main sources of the sandstone unit were formed during temporary rifting of a volcanic arc. It is probable that the Mauri succession sedi-mentation was partly driven by tectonic faulting combined with erosional dissection of volcanoes.