

Clay Mixing Fabric Group

(Samples MC 2013/27, 28, 30) (Fig. 8)

Inclusions

43-45%. el & eq. sa-sr. < 4.5 mm. Single- to double-spaced. Moderately sorted. Bimodal grain size distribution.

Coarse Fraction

30-35%. 5-1 mm

Common: Clinopyroxene; eq. sa-sr. < 4-1 mm. Second order birefringence, cleavage and high relief. Augite

Common: Olivine; eq. sa-sr. < 5 mm. Second order birefringence.

Common: Monocrystalline Quartz; eq. sa-sr. < 1 mm. Some show undulose extinction.

Common: Opaque inclusions; el. sr-r. < 1 mm.

Common-Few: Zeolite; sr-r. < 4 mm phenocrysts of leucite in a brown groundmass (samples MC 2013/27, 28, 30)

Common-Few: Sanidine; eq sq-sr. < 1.5 mm.

Common-Few: Leucite; sa-sr. < 4 mm. Isotropic phenocrysts (samples MC 2013/27, 28, 30)

Common-Few: TFs: alternation of two different types of clay: the first is light-coloured and comprises quartz and augite inclusions, whereas the second is a red clay with fine biotite inclusions.

Few-absent: Biotite; eq. a. < 3 mm. Brownish, green and speckled in XP. Perfect cleavage (samples MC 2013/27, 28, 30).

Few-absent: Micrite; el. r. < 1 mm. Occurs mainly in voids and as nodules (samples MC 2013/27, 28, 30).

Few-absent: Microfossils < 1 mm. (samples MC 2013/27, 28, 30).

Few-absent: Sedimentary rock inclusion; sa.-sr. < 5 mm. Consisting of sand-sized quartz and augite inclusions, set in a brown groundmass. Ferruginous sandstone (sample MC 2013/27, 30).

Fine Fraction

65-70%. < 1 mm

Common: Quartz

Common: Augite

Common: Opaques

Common: Biotite

Matrix

50-60%. Light-brown in XP, and light-grey in PPL. The matrix is optically active (samples MC 2013/27, 28, 30). Quite homogeneous, but heterogeneity is caused by TFs, showing evidence for clay mixing

Voids

5-7%. Consisting mainly of micro-vesicles (sample MC 2013/28, 32), few meso-vughs and vesicles (samples MC 2013/28, 32). No alignment to margins. Micrite is deposited on the interior of voids (samples MC 2013/27, 28, 30).

Comments

This fabric is characterised by sand-sized igneous inclusions in a clay matrix that is characterised by clay mixing. The coarse inclusions mainly comprise augite, olivine, leucite, zeolite and biotite inclusions (c. 4 mm), but also a smaller fraction of quartz and augite inclusions (c. 1 mm). One sample shows important evidence for clay mixing with a light-coloured clay, characterised by quartz and augite inclusions on the one hand, and a red base-clay with the aforementioned coarse igneous inclusions (sample MC 2013/27). Micrite has been deposited in voids. The samples were fired in an oxidising atmosphere, and at a low firing temperature. This fabric group occurs at consumption sites at Forum Appii and rural site 14016.

The light-coloured clay with fine quartz and augite inclusions in this fabric appears to be similar to the Sedimentary Fabric Tempered with Igneous Inclusions. Also, the range of coarse inclusions bears important similarities to the Sedimentary Fabric Tempered with Igneous Inclusions. The difference lies in the clay matrix of this fabric, which shows evidence for clay mixing of the light-coloured clay with fine quartz and augite with red clay with fine biotite.

Fabric 8 is similar to the II/III E poorly sorted to very poorly sorted coarse gritty/Leucite-Lava and Leucite-Tuff fabric from the Late Archaic site at Satricum (Attema *et al.* 2001, 365). Firing experiments showed that this fabric turned to an orange colour, suggesting clay mixing (Attema *et al.* 2001, 367). The fabric was used for the manufacture of tiles, storage jars, loom weights, large bowls (*tegliae*) and life-sized terracotta statues.



Fig. 8: Clay Mixing Fabric with coarse sanidine inclusions in XP. Width of image = 5.8 mm.