Petrographic examination in thin section - Guideline

INCLUSIONS

Relative abundance %

Dimensions[1] (limit value or range)

Grain size distribution (unimodal; bimodal; heterogeneous)

Shape (equant/elongated)

Roundness (very angular; angular; sub-angular; sub-rounded; rounded; well rounded)

Spacing (close-spaced; single-spaced; open-spaced)

Orientation/alignment (weak; moderate; strong; very strong)

Mineralogical and petrographic composition (decreasing abundance):

XXXX > 50%

XXX 50-30 %

XX 30-10 %

X <10%

D → detectable

Argillaceous inclusions (chamotte; clay pellets; argillaceous rocks fragments)

Chamotte features (relic vessel, surface, slips, glazes, second-generation chamotte)

Other (plant matter – carbonized; microfossils, shells, bones…)

MATRIX[2]

Relative abundance %

Degree of heterogeneity (slightly; moderately; highly)

Size of each grain

Microcrystalline calcite (Not Detectable; slightly; moderately; highly calcareous)

Microcrystalline opaque (present or not)

Colour of matrix clay

Dominant interference colour

B-fabric (strial; striated; speckled) →Prefer orientation of clay minerals

[1] The dimension can be also defined by the sand "grade" of the Udden-Wentworth scale (very coarse 2-1 mm; coarse 1-0.5 mm; medium 0.5-0.25; fine 0.25-0.125 mm; very fine<0.125 mm)

[2] Grains dimension to distinguish matrix and inclusions → 0.01 mm

GLASS (VITRIFIED PORTIONS)

Frequency (very rare, rare, frequent)

Shape

Colour

VOIDS

Relative abundance %

Shape (vesicles; channels; vughs; planar voids)

Size (micro <0.05 mm; meso 0.05-0.5 mm; macro 0.5-2 mm; mega >2)

Degree of alignment of elongate voids (low; medium; high)

Post depositional alterations in voids (secondary calcite)

IMAGES

Low magnification (2x) for the images acquisition of general view; higher magnification only for details

NOTES