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Tanzrouft 057 : C4 © Meteoriteshow

Tanzrouft 057

25°16'N, 0°09'E

Algeria

Found 2002 December 23

Carbonaceous chondrite (C4)

A large (5.4 kg), dark grey, moderately compact stone, lacking fusion crust was found by F. Beroud and C. Boucher. Mineralogy and classification (B. Devouard and J.-L. Devidal, *UBP*; B. Zanda and M. Denise, *MNHNP*): large chondrules (around 1mm in diameter), matrix around 50% but locally more abundant (~70%), numerous irregular whitish inclusions up to 3 mm, and occasional zoned CAIs up to 17 mm. In addition, several large (up to 2.5 cm) dark grey inclusions show a finer grained petrology, with no (or extremely rare) chondrules or CAIs. More of these fine-grained inclusions are visible at the surface of the hand sample. The meteorite is nearly equilibrated: olivines are around $Fa_{30 \pm 4}$ except for a few unequilibrated chondrules; OPX range from Fs_3 to Fs_{30} , with a mean at Fs_{19} . The groundmass is highly recrystallized, with homogeneous olivine, orthopyroxene and plagioclase grains around 100 μm in size. The groundmass is texturally equilibrated, although most grains seem to be porous. Magnetite is the dominant opaque mineral, associated with minor FeS, Ni-rich monosulfide, minor pentlandite and possibly pyrite. Outside chondrules, small magnetite grains and minute sulfide grains are scattered within the matrix. No metal was observed. However, iron hydroxides patches are visible, and metal or sulfides may have been obliterated by terrestrial weathering. The numerous irregular inclusions retain a fine-grained texture made of plagioclase and clinopyroxene that may be metamorphosed CAIs. The overall characteristics of this meteorite are consistent with a C4 classification, with affinities to the CV oxidized subgroup and/or the CK group. Specimens: type specimen, 110 g, *MNHNP*; main mass with finders.



Tnz 057 : partslice #6 (6.4g)



Tnz 057 : partslice #5 (2.9g)

Those two partslices were cut from a larger slice (see picture hereunder)





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