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Mineralogy of the Machtenstein H 5 ordinary chondrite

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Machtenstein is a severely weathered H5 ordinary chondrite, found in Bavaria near the town of Machtenstein, South Bavaria. The total mass of the meteorite is 1422 g, type specimen mass is 21.7 g. Type specimen, 1 polished thin section, 1 polished thick section and 1 EMP sample are deposited in the Mineralogical State Collection Munich (MSCM) [1].

Main mineral phases are olivine, ortho- and clinopyroxene, plagioclase, troilite, kamacite, taenite, chromite and merrillite. Weathering products are hematite and goethite which are especially found in the outer weathered parts but also along cracks in the interior.

[1] Machtenstein, in: Meteoritical Bulletin 2014.

[2] Hochleitner R. et al., LPSC 2015, #1471.

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Cite abstract as:

Hochleitner, R., Hoffmann, V.H., Kaliwoda, M. (2015) Mineralogy of the Machtenstein H 5 ordinary chondrite. Paneth Kolloquium, Nördlingen (Germany), abstract URL: <http://www.paneth.eu/PanethKolloquium/2015/0073.pdf> (abstract #0073).