

Facies development and MS across the Silurian/Devonian boundary in the Lake Wolayer area (Carnic Alps, Italy and Austria)

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Upper Silurian and Lower Devonian sediments in the Lake Wolayer area are characterized by generally shallow water deposits. Two sections, a few hundred meters apart from each other, expose the Silurian–Devonian boundary: the Seewarte section (BANDEL, 1969; SUTTNER, 2007) and the Rifugio Lambertenghi Fontana III (RLF III) section (CORRADINI & CORRIGA, 2010).

The Seewarte section exposes rocks from upper Pridoli to Emsian. The Silurian part consists of 5 m of grey wackestones-packstones including interbeds of few centimetre-thick layers of densely packed bioclastic grainstones; common fossils are fragmented crinoids, bryozoans, brachiopods, corals and cephalopods. The S/D boundary coincides with the base of crinoidal limestone, often strongly dolomitized.

The RLF III Section exposes about 15 m of grey-reddish “*Orthoceras* limestones” of Pridoli–Lochkovian age, mainly represented by an irregular alternation of grainstones and wackestones-packstones. Crinoids are always very abundant, brachiopods are common; rare nautiloid cephalopods and trilobites have been observed in some levels. The S/D boundary is exposed in the upper part of the section, characterized by very shallow water sediments.

Conodont fauna allowed a good biostratigraphic characterization of the two sections, even if in the boundary interval the abundance is quite scarce.

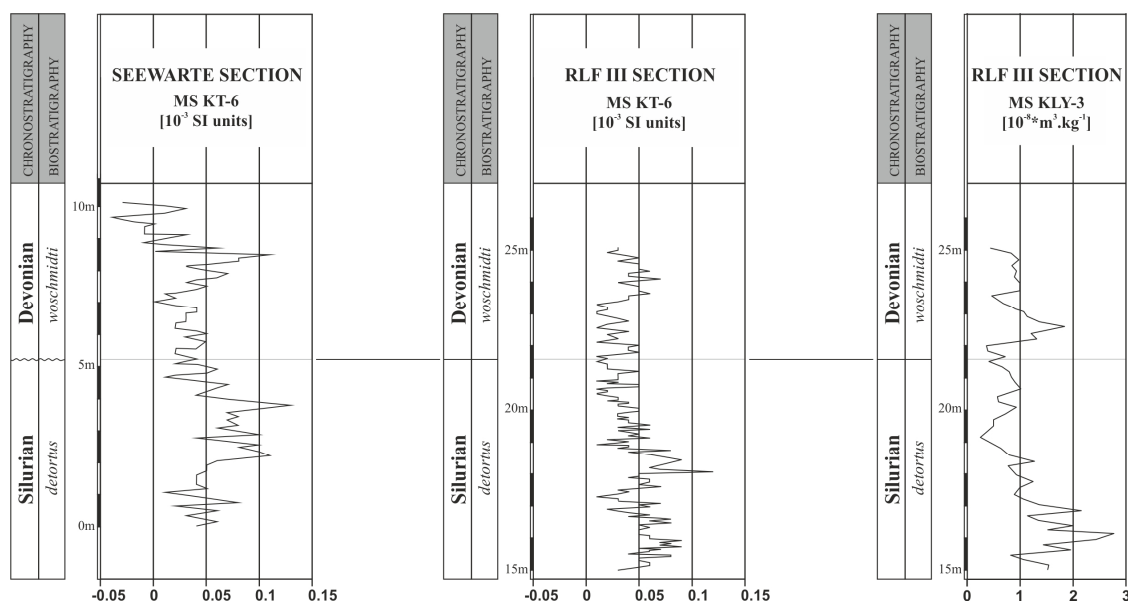


Fig. 1: Magnetic susceptibility across the S/D boundary of the Seewarte and RLF III sections.

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In order to achieve a more precise correlation within the two sections, geochemical and geophysical methods were applied in the boundary interval.

As for geochemical analysis, the stable carbon isotopes were studied. The well known prominent $\delta^{13}\text{C}$ shift in the latest Pridoli, just below the basal Devonian "plateau"-like peak (SALTZMAN, 2002; BUGGISCH & MANN, 2004) is documented.

As for geophysical methods, the magnetic susceptibility was studied, both with field device (KT-6) and, for the RLF III section, measurements were also done on the Kappabridge laboratory device (KLY-3). The results especially of the field method show very similar trends for both sections, displayed by distinctive positive and negative shifts (Fig. 1). More precisely, three peaks are evident: two in the Silurian and one in the lowermost Devonian.

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