



Fig. 23. The Valentintörl section (view to the east).

carbonate beds. The rest of the Kok Fm., that has a total thickness of 12 m, varies from the typical brownish cephalopod-bearing Kok Fm. by its greyish color and its rich brachiopod and crinoid content. The accumulation of small brachiopods (“Pentamerids”) has not been studied yet.

Above 3.3 m of Cardiola Fm. crop out, represented by dark grey to black shales with limestone intercalations.

The section continues with the Alticola Fm., constituted of massive cephalopod-bearing, grey to pinkish wackestones and packstones.

References: SCHÖNLAUB (1971, 1980), BRETT et al. (2009).

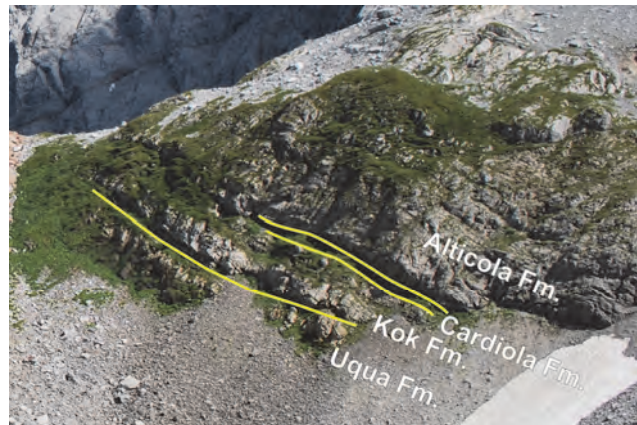


Fig. 24. The Base of Seewarte section (view to the south).

3.3.5. Stop 12 – Wolayer glacier section

The Wolayer glacier (Fig. 25) section is located in the northern side of the Wolayer valley at altitude 2080 m, about half distance between Valentintörl and Lake Wolayer, at coordinates N 46°36'48.8", E 12°52'34.9".

That section is the type section for the Valentin Fm. (SPALLETTA et al., 2015b), and also exposes limestones of the Pal Grande Fm. in the upper part. The section has been investigated



Fig. 25. The Wolayer glacier section (view to the northeast).

for conodont biostratigraphy, sedimentology, isotope geochemistry by SCHÖNLAUB (1980), GÖDDERTZ (1982), JOACHIMSKI et al. (1994) and HÜNEKE (2006).

The Valentin Fm. is represented by about 14 m of bioturbated greyish wackestone, and packstone, deposited in a pelagic environment, with very low sedimentation rate and erosion/re-deposition controlled by bottom currents.

Here, the Pal Grande Fm. is very condensed, being the interval between the Upper *hassi* and the Lower *crepida* Zone represented by about 2.5 m of limestone. A 6 cm thick black shale horizon between sample 89 and 90 is interpreted as an equivalent of the Lower Kellwasser Horizon (JOACHIMSKI et al., 1994), whereas well-oxygenated conditions with bioturbations are documented at the Frasnian/Famennian boundary. The Upper Devonian strata are overlain by siliciclastics of the Lower Carboniferous Hochwipfel Fm.

In terms of chronostratigraphy, the following boundaries have been recognised along the section:

- The Lower/Middle Devonian boundary (= Emsian/Eifelian boundary) is placed between beds 28 and 29, by the entry of the marker *Po. partitus* in bed 29 (SCHÖNLAUB, 1980).
- The Eifelian/Givetian boundary is located in the upper part of the Valentin Fm., between beds 70 and 71.
- The Middle/Upper Devonian boundary (= Givetian/Frasnian boundary) can be traced at the top of the bed marked by sample 72, where a distinct phosphorite layer separating limestones of Givetian (*varcus* Zone) and Frasnian (Lower *hassi* Zone) age occur (SCHÖNLAUB, 1985; JOACHIMSKI et al., 1994).
- The Frasnian/Famennian boundary is located about 1 m above the base of the Pal Grande Fm., between samples 91 and 92 (SCHÖNLAUB, 1980; JOACHIMSKI et al., 1994).

References: SCHÖNLAUB (1980, 1985, 1999), GÖDDERTZ (1982), JOACHIMSKI et al. (1994), HÜNEKE (2006).