

National Commission for Stratigraphy Belgium

Home Lower Paleozoic Devonian Carboniferous Permian/Triassic/Jurassic Cretaceous Paleogene-Neogene Quaternary
News RegWal Alteration units

5.15 Waulsort Formation - WAU

Carboniferous

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[Proposals and discussions](#)
[Lithostratigraphy](#)
[Chronostratigraphy](#)

Authors: Dupont, 1883; Lees et al., 1977, 1985; Paproth et al., 1983; Lees, 1997.

Description: The formation comprises buildups formed from individual carbonate mudmounds or, more commonly, from mudmound aggregates which developed on the distal part of the ramp during the late Tournaisian (Lees 1982).

Waulsortian rocks are usually massive, pale grey to beige limestones and diagenetic dolomites, devoid of chert. The main lithofacies are :

- A spar-rich facies (including the "veines bleues" of early authors) which is typical of the lower and middle part of the buildups. Some sparry masses represent cavity fillings, including voids formed after decay of soft-bodied organisms (and sometimes modified subsequently by local collapse and dissolution) as well as fracture fillings. Other sparry fabrics were formed by neomorphism. The matrix material surrounding the sparry masses is predominantly wackestone.

- Bedded to massive, crinoidal packstones to rudstones, which occur mainly in the lower part (some are related to intercalations of Bayard facies);

- Massive or poorly stratified, bioclastic wackestones, which tend to dominate in the upper part of the buildups.

Fenestrate bryozoans are abundant, particularly in the lower parts of the buildups, where fronds are common. A rich macrofauna of brachiopods and molluscs is common in the spar-rich facies (Demagnet, 1958). Microbial processes probably played an important role in producing and fixing the carbonate muds.

The Bayard and Lefte Formations form the proximal lateral equivalents of the lower and upper parts of the buildup sequence, respectively.

Stratotype: Road and rail sections at Gendron-Celles for the base of the formation (Groessens, 1975); Moniat ravine section, between Dinant and Anseremme on the left bank of the River Meuse for the top of the formation (Lees et al. 1977; Conil et al., 1988; Lees, 1997). The Pauquys crags, N of Waulsort, on the left bank of the R. Meuse were previously designated as the stratotype (Paproth et al., 1983), but it proved to be a poor one as it exposes neither the base nor the top of the formation, it does not show the whole range of lithotypes; and the rocks are extensively dolomitized (Dehantschutter & Lees, 1996).

Area: Restricted to the DSA. Most of the Waulsortian rocks are concentrated in a more-or-less continuous buildup complex along the southwestern border of the DSA. Towards the north and east, the buildups become increasingly scattered, finally disappearing in the area beyond Ciney and Sosoye.

Thickness: From zero to more than 300 m.

Age: Early Ivorian to early Moliniacian (latest Tournaisian). The Waulsortian facies started to develop early in the Ivorian, close to the level of appearance of the conodont *Polygnathus communis carina*, and declined during the late Tournaisian. The upper parts of the youngest buildups have early Moliniacian foraminifera (e.g. Lees, 1997) but no Visean Waulsortian has yet been demonstrated in Belgium. Not all buildups extend through the whole stratigraphic range (e.g. those in the Pauquys area described by Dehantschutter and Lees, 1996). Corals are mainly represented by *Amplexus coralloides* and do not allow to establish biozonation. Development of the Waulsortian facies occurred through third-order sequences 3 and 4 (Hance et al, 2001).