

Summarised description

Unit name

Clervaux Formation

Code

CLE

Status

Formal Formation

Parent unit

none

Child units

Härebësch Member, Berlé Quartzite

Characteristic description

The Clervaux Formation is a red and green shale unit including sandstone beds and horizons of decalcified carbonate nodules. It ends locally with lens-like beds of white quartzite.

Age

Emsian

Thickness

200 to 500 metres

Area of occurrence

Neufchâteau–Eifel Synclinorium, east of Ebly and eastwards in Luxembourg and Germany (Eifel).

Type locality

The section along the road CR325, south-west of the Clervaux town (Luxembourg), offers a good exposure of the Formation, including its contact with the underlying Our Formation. The upper part of the Clervaux Formation and the Berlé Quartzite is exposed along the N10 road, south of the bridge on the Our River at Dasbourg-Pont (Luxembourg).

Alternative names

Schistes rouges de Clervaux, Klerf-Formation

Authors

Gosselet (1885)

Modified after

Denayer, J. & Mottequin, B., 2024. Lower Devonian lithostratigraphy of Belgium. *Geologica Belgica*, 27/3-4, 115–154.

Date

23/09/2025

Cite as

Denayer, J. & Mottequin, B., 2025. The Clervaux Formation, 23/09/2025. National Commission for Stratigraphy Belgium. <https://ncs.naturalsciences.be/lithostratigraphy/Clervaux-Formation>

Full description

Unit name

Clervaux Formation

Code

CLE

Status

Formal Formation

Parent unit

none

Child units

Härebësch Member, Berl  Quartzite

Origin of the name

After the town of Clervaux in Luxembourg.

Alternative names

Schistes rouges de Clervaux, Klerf-Formation

Authors

Gosselet (1885, p. 269) : *Schistes rouges de Clervaux*

Modified after

Denayer, J. & Mottequin, B., 2024. Lower Devonian lithostratigraphy of Belgium. *Geologica Belgica*, 27/3-4, 115–154.

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Characteristic description

The Formation starts with olive-green and greyish shale and siltstone with greenish sandstone lenses and beds. The fine-grained lithologies typically have a silk-soft touch. Upwards, the reddish colour appears in the shale, but the sandstone keeps its greenish or greyish colour (Dejonghe, 2020). In the upper part of the Formation, small limonitic nodules aligned in thin horizons occur. Usually light grey, quartzitic and argillaceous sandstone beds with flaser-bedding occur sporadically and locally (called **Härebësch Member**, *Membre de Härebësch* in Dejonghe, 2021, p. 23), and are better individualised in Luxembourg (Dejonghe, 2021). At the top of the Formation, a second package of sandstone beds form a distinct unit called *Quarzites* [sic] *de Berl * (Gosselet, 1885, p. 265) in Luxembourg, *Koblentzquartzit* or *Emsquartzit* in Germany (Ribbert et al., 1992) and *Quarzites* [sic] *de Traimont* (Gosselet, 1885, p. 293) in Belgium (Ghyzel, 2023). The **Berl  Quartzite** (called *Q1* in Asselberghs, 1946) is made of lenticular beds of argillaceous and quartzitic sandstone with planar and oblique stratifications, mud chips, dissolved coquinas and bioturbations (Michel et al., 2010). The quartzitic horizon is laterally very discontinuous and, where not developed, the overlying Wiltz Formation rests directly on the Clervaux

Formation. Similar beds also occur within the upper third of the Clervaux Formation (Q2 and Q3 in Asselberghs, 1946).

In the German lithostratigraphic terminology, the *Klerf Schichten* (Klerf beds) cover a wider package of rocks than the Luxembourg and Belgian Clervaux Formation, as this unit covers the shaly upper part of the Our Formation. Recent investigations of the palynological content in Germany confirm that the base of the *Klerf-Schichten* might be older (early–middle Emsian, Steemans et al., 2023). Note also that the German Stratigraphic Commission considers the Berl  Quartzite as a formation (Jansen, 2016).

Area of occurrence

Neufch teau–Eifel Synclinorium, east of Ebly and eastwards in Luxembourg and Germany (Eifel). The red colour, dominant in the western part of this synclinorium, tends to fade eastwards where the green colour dominates. The unit is also present in some synclines east of the Stavelot–Venn Inlier near Bullange (B llingen) and Manderfeld.

Type locality

The section along the road CR325, south-west of the Clervaux town (Luxembourg), offers a good exposure of the Formation, including its contact with the underlying Our Formation. The upper part of the Clervaux Formation and the Berl  Quartzite is exposed along the N10 road, south of the bridge on the Our River at Dasbourg-Pont (Luxembourg). In Belgium, the Clervaux Formation is poorly exposed, but a correct section is situated along the road N848, south of Volaville, where the quartzite was extracted in small quarries (Ghysel, 2023). The H reb sch Member is exposed in disused quarries along the Wiltz River near Weidingen (Luxembourg, see Dejonghe, 2021).

Age

The Clervaux Formation yielded spores indicative of the FD and AP zones (Steemans et al., 2000), i.e. middle to late Emsian in age. The Berl  Quartzite yielded an upper Emsian macrofauna and therefore is equivalent to the upper part of the Clervaux Formation (Asselberghs, 1941).

Thickness

In the type area, the Clervaux Formation reaches 500 m in thickness. It decreases westwards to c. 200 m at the border between Luxembourg and Belgium and increases eastwards to 700–800 m at the Germany–Luxembourg border (Dejonghe, 2020). The Berl  Quartzite is 2–5 m thick in Belgium (Ghysel, 2023) and its thickness reaches 8–9 m in Luxembourg.

Lower boundary

The first occurrence of olive-green shale beds overlying the greenish-brown sandstone of the Our Formation.

Upper boundary

The first bed of brownish shale of the Wiltz Formation overlying either the top of the Berl  Quartzite or the reddish shale.

Regional correlations

The Clervaux Formation passes to the Chooz Formation in the Dinant Synclinorium.

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