

Summarised description

Unit name

Ecluse Member

Code

ECL

Status

Formal Member

Parent unit

Vireux Formation

Child units

None

Characteristic description

Thick beds of grey, bluish-grey or greenish quartzitic sandstone rich in various sedimentary.

Age

Emsian

Thickness

54 metres in the type section

Area of occurrence

Southern limb of the Dinant Synclinorium up to the Aisne River valley.

Type locality

After the écluse de Montigny (locks) facing the type section of the Vireux Formation in the Meuse River valley (France).

Alternative names

Grès noir de Vireux

Authors

Godefroid & Stainier (1988)

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 Ecluse Member, 23/09/2025. National Commission for Stratigraphy Belgium. <https://ncs.naturalsciences.be/lithostratigraphy/Ecluse-Member>

Full description

Unit name

Ecluse Member

Code

ECL

Status

Formal Member

Parent unit

Vireux Formation

Child units

None

Origin of the name

After the *écluse de Montigny* (locks) facing the type section of the Vireux Formation in the Meuse River valley (France).

Alternative names

Grès noir de Vireux

Authors

Godefroid & Stainier (1988, p. 99): *Membre de l'Écluse*

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 Écluse Member is made of thick masses of frequently lenticular beds of grey, bluish-grey or locally greenish quartzitic sandstone that are separated by thick beds of dark grey shale. The vertical arrangement of the lithologies suggests sequential shallowing-upwards deposits (Cibaj, 1992). Sedimentary structures (cross-beds, ripple marks, load and groove casts, ball-and-pillows) are frequent. Discontinuous and thin fossiliferous horizons (brachiopods, bivalves, crinoids, tabulate corals, trilobites) are observed in the sandstone beds

Area of occurrence

The Vireux Formation is recognised on the southern and south-eastern flanks of the Dinant Synclinorium up to the Aisne River valley.

Type locality

Disused Montigny quarries, on the left bank of the Meuse River, between Vireux-Molhain and Montigny-sur-Meuse (France)

Age

Traditionally ascribed to the lower part of the Emsian following the tripartite subdivision of this stage (e.g. de Dorlodot, 1901) but elements for a precise dating are lacking.

Thickness

54 m in the Meuse River valley (Dumoulin & Coen, 2008).

Lower boundary

First thick sandstone bed overlying the mostly shaly underlying Ruisseau de la Forge Formation.

Upper boundary

The boundary between the two members is defined at the top of the last bed containing macrofossils and sedimentary structures. It is not clear-cut from the lithological viewpoint; therefore, Godefroid & Stainier (1988, 1994) placed it at the top of the last bed yielding macrofauna, but again, this criterion cannot be easily applied on isolated outcrops.

Regional correlations

In the Aisne River valley, the Vireux Formation passes laterally to the Wépion Formation (Marion & Barchy, in press).

References

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- de Dorlodot, H., 1901. Compte rendu des excursions sur les deux flancs de la crête du Condroz faites par la Société belge de Géologie, de Paléontologie et d'Hydrologie le 19 mars et les 8 et 9 avril 1899. *Bulletin de la Société belge de Géologie, de Paléontologie et d'Hydrologie*, 14/5 (pro 1900), Mémoires, 113–192.
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- Godefroid, J. & Stainier, P., 1988. Les Formations de Vireux et de Chooz (Emsien inférieur et moyen) au bord sud du Synclinorium de Dinant entre les villages d'Olloy-sur-Viroin (Belgique) à l'Ouest et de Chooz (France) à l'Est. *Bulletin de l'Institut royal des Sciences naturelles de Belgique, Sciences de la Terre*, 58, 95–173.
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