

Op-den-Berg Facies (Kieseloolite Formation)

Unit name: Op-den-Berg Facies

Hierarchical unit name: Kieseloolite Formation

The ranking in the Kieseloolite Formation, and not in the Mol Formation as was cautiously suggested by Gullentops (1974) and Gulinck (1962), is justified by the location of the facies east of the Roer Valley Graben (RVG) border fault.

Type: Facies

Code: KzOp

Authors:

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Alternative names: Neeroeteren sand

Origin of the name: Original name was the Neeroeteren facies (Tavernier & de Heinzelin (1962), Gulinck (1962), Gullentops (1963)), but is changed because the name is already formally in use for the Neeroeteren Formation of the Carboniferous.

Status: Formal facies, exact stratigraphic position uncertain

Date: 01/05/2022

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Characterizing description

A medium to coarse-grained even gravelly, poorly-sorted, grey to white quartz-enriched sand; quartz grains have angular outlines. Gully structures and oblique stratification occur in the sand. Among the gravels, which are mainly of Ardennes origin, a few ooliths occur.

Type section, type locality, type borehole, or type geophysical borehole

Tavernier & de Heinzelin (1962) define the Op-den-Berg, formerly Neeroeteren, sand as analogous to the Mol sand but situated at about + 80 m topographic height at the border of the Campine Plateau. They indicate on the geological map attached to their paper the sand pit Magge close to Neeroeteren-Berg. The Magge sand pit was first described by Hacquaert & Tavernier (1946).

The Op-den-Berg Facies is described, formerly as Neeroeteren facies, from the former sand quarry Neeroeteren-Berg (064W0211, kb26d64w-B217), by Gulinck (1962) and by Gullentops (1963) who made a sedimentological and mineralogical analysis of the sand pit, and by Sels et al. (2001, Stop 4 & Photo 2) who ranked the sand in the Waubach sand and Gravel unit. Geys (1972) has analysed in detail the grain size of the Magge sand pit in Neeroeteren and interpreted a fluvial depositional environment with some beach horizons.

Description upper boundary

Not defined yet. On the slope towards the Campine Plateau, south of the sand pit and at a higher topographic level, the Zutendaal gravel is outcropping, with strong red weathering facies with black

incrustation. Due to the tectonic deformation, the exact geometric relation between the Neeroeteren sand and Zutendaal gravel is not well known.

Description lower boundary

Not defined yet.

Thickness

A minimal thickness of 19 m, figured in the reference sandpit (Gullentops, 1963).

Occurrence

The reference sand pit is located just east of the fault zone bordering the deeper subsidence area of the Roer Valley Graben in east Belgium, in between the Feldbiss/Geleen and Heerlerheide Faults (Op den Berg fault block by Langenaeker, 1999). Therefore the Op-den-Berg Facies is included in the Kieseloolite Formation rather than in the Mol Formation.

Regional correlations

Tavernier & de Heinzelin (1962), Gulinck (1962) and Gullentops (1963) cautiously suggested that the Op-den-Berg Facies, formerly Neeroeteren facies, represents a lateral facies of the Mol Formation. Given its location in the RVG, the lithofacies and following the present stratigraphic practice regarding the occurrence of the Mol and Kieseloolite Formations, the Op-den-Berg Facies is better included in the Kieseloolite Formation.

On an idealised section, Gullentops (1974) related the gravel in the Op-den-Berg, formerly Neeroeteren, sand with a sparse gravel in the outcropping part of the Mol Formation and with the Hukkelberg gravel at the base of the Poederlee Formation. However in the legend of the 1:50 000 Geological Map 18-10 Maaseik-Beverbeek (Sels et al., 2001, Stop 4, p. 42, sand quarry Neeroeteren-Berg, named quarry Opitter in Gullentops (1963), BGD 064W0211, DOV kb26d64w-B217; Fig. 1, Table 1), this formerly Neeroeteren sand facies is considered as the lower part of the Kieseloolite Formation, namely the Waubach sand and gravel. Most probably this is because of the presence of gravel and the closeness to a natural outcrop also interpreted as Waubach sand and gravel (Sels et al., 2001, op.cit. photo 3) (Figure 0-1).



Figure 0-1 :Outcrop of poorly lithified and jointed Waubach Sand in Bergerven, in the prolongation of the Neeroeteren sand quarry towards the Meuse valley (photo M. Dusar).

Age

No biostratigraphic data are available.

Dataset

Neeroeteren-Berg (064W0211, kb26d64w-B217) is probably the Magge sand pit in Tavernier & de Heinzelin (1962) and Geys (1972) with coordinates in Geys (1972) $x= 242.300$, $y= 197.200$, $z= +55m$. This borehole is part of the [DOV-Neogene data collection, including links to the GSB-collection data sheets](#):

Name	GSB name	DOV name	GSB Collections URL	DOV URL
Neeroeteren-Berg	064W0211	kb26d64w-B217	https://collections.naturalsciences.be/ssh-geology-archives/arch/064w/064w0211.txt	https://www.dov.vlaanderen.be/data/boring/1920-042751

References

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