

Opgrimbie Facies (Genk Member)

Unit name: Opgrimbie Facies

Hierarchical unit name: Genk Member

Type: Facies

Code: BbOg

Author(s):

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Alternative names: Miocene glass sand of Maasmechelen (Gullentops, 1972-1973); Maasmechelen Silver Sands (Sels et al., 2001; Buffel et al., 2001), 'Mechelen aan de Maas sand' (Laga, 1973). This unit includes the Terlamen gravel at its base. It is topped by the Opgrimbie gravel.

Origin of the name: The origin of the name of the unit is discussed in Louwye et al. (2020).

Status: Formal

Date: 01/05/2022

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Characterizing description

A medium-grained, white sandy unit holding a lignite seam (Kikbeek Lignite) and a quartzite layer (a silcrete cemented by originally opal bioliths) (Gullentops, 1963, 1972-1973; Matthijs, 1999). The white sand of the Opgrimbie Facies has in the type locality (Opgrimbie quarry) a modal grain size of approximately 215 μm . A sample from this facies in the Wijshagen borehole has a modal grain size of 296 μm , a clay content of only 0.7 % and a D90 of 433 μm . (Gullentops, 1963, 1973; see also Adriaens, 2015).

Type section, type locality, type borehole, type CPT and/or type geophysical borehole

Sibelco sand pit at Opgrimbie in eastern part of the Limburg province (Gulinck, 1961; Wouters & Vandenberghe, 1994; Van Loon, 2009).

Description upper boundary

The Opgrimbie Facies is topped by the undulating Opgrimbie gravel consisting of well-rounded blue flint pebbles (Matthijs, 1999).

Description lower boundary

The Terlamen gravel occurs at the base of the Opgrimbie Facies, resting on a sandy unit representing a transition from the underlying marine, glauconitic Houthalen Member (Matthijs, 1999).

Thickness

The thickness of the Opgrimbie Facies ranges between 10 and 15 m. The lignite seam has a thickness of about 3 m. The precise lateral and vertical limits of this facies remain to be determined (Louwye et al., 2020).

Occurrence

The Opgrimbie Facies occurs in the eastern part of the Limburg province.

Regional correlations

The Kikbeek Lignite can be correlated with the Frimmersdorf Lignite Seam (Lower Rhine Graben) (Louwye et al., 2020), while the quartzite is correlated with the Braunkohlen Quartzit (Gullentops, 1963) or the Nivelstein Sandstone (van Loon, 2009). The Opgrimbie Sand is correlated with the Heksenberg Member of the Groote Heide Formation (Deckers & Munsterman, 2020; Munsterman et al., 2019; van Loon, 2009).

Age

No precise absolute or relative dating of the Opgrimbie Facies is available. The Genk Member has been relatively dated through biostratigraphy as Langhian to early Serravallian (Louwye et al., 2020).

Dataset

Data in the LIS are part of the [DOV-Neogene data collection](#), including links to the GSB-collection data sheets.

Subset of the lower and middle Miocene: <https://www.dov.vlaanderen.be/data/opdracht/2020-022192>

References

- Adriaens, R., 2015. Neogene and Quaternary clay minerals in the southern North Sea. Unpublished Ph.D. Thesis, KU Leuven, Leuven, 272 p.
- Buffel, P., Claes, S. & Gullentops, F., 2001. Toelichtingen bij de geologische kaart van België, Vlaams Gewest: kaartblad 26, Rekem [1/50 000]. Belgische Geologische Dienst en Ministerie van de Vlaamse Gemeenschap, Afdeling Natuurlijke Rijkdommen en Energie, Brussel, 56 p.
- Deckers, J., & Munsterman, D., 2020. Middle Miocene depositional evolution of the central Roer Valley Rift System. *Geological Journal*, 55, 6188-6197. <https://doi.org/10.1002/gj.3799>
- Gulinck, M., 1961. Note sur le Boldérien d'Opgrimbie (Campine) et remarques sur les grès 'erratiques' du Limbourg. *Bulletin de la Société belge de Géologie, de Paléontologie et d'Hydrologie*, 70, 297–301.
- Gullentops, F., 1963. Etude de divers faciès quaternaires et tertiaires dans le Nord et l'Est de la Belgique. 6e Congrès International de Sédimentologie, Belgique et Pays-Bas, 20 p.
- Gullentops, F., 1972-1973. Grainsize and mineralogy of Miocene glass- sands of Maasmechelen, Belgian Limburg. *Mededelingen Rijks Geologische Dienst*, 23, 25–34.
- Laga, P., 1973. The Neogene deposits of Belgium. Guidebook for the Field Meeting of the Geologists' Association London, 31 March–3 April, 1973. Geological Survey of Belgium, Brussels, 31 p.
- Louwye, S., Deckers, J., Verhaegen, J., Adriaens, R. & Vandenberghe N., 2020. A review of the lower and middle Miocene of northern Belgium. *Geologica Belgica*, 23/3-4, 137-156. <https://doi.org/10.20341/gb.2020.010>
- Matthijs J., 1999. Toelichtingen bij de geologische kaart van België, Vlaams Gewest: kaartblad 25, Hasselt [1/50 000]. Belgische Geologische Dienst en Ministerie van de Vlaamse Gemeenschap, Afdeling Natuurlijke Rijkdommen en Energie, Brussel, 104 p.
- Munsterman, D., ten Veen, J., Menkovic, A., Deckers, J., Witmans, N., Verhaegen, J., Kerstholt-Boegehold, S., van de Ven, T., & Busschers, F., 2019. An updated and revised stratigraphic framework



for the Miocene and earliest Pliocene strata of the Roer Valley Graben and adjacent blocks. Netherlands Journal of Geosciences, Volume 98, e8. <https://doi.org/10.1017/njg.2019.10>

Sels, O., Claes, S. & Gullentops, F., 2001. Toelichtingen bij de geologische kaart van België, Vlaams Gewest: kaartblad 18 - 10, Maaseik - Beverbeek [1/50 000]. Belgische Geologische Dienst en Ministerie van de Vlaamse Gemeenschap, Afdeling Natuurlijke Rijkdommen en Energie, Brussel, 50 p.

van Loon, A.J., 2009. Unravelling the enigmas of the 'silver sands' in the Dutch/German/Belgian border area. Netherlands Journal of Geosciences, 88, 133–145. <https://doi.org/10.1017/s0016774600000858>

Wouters L. & Vandenberghe, N., 1994. Geologie van de Kempen. ONDRAF-NIRAS, Brussel, NIROND-94, 208 p.