Someren Member (Veldhoven Formation)

Unit name: Someren Member

Hierarchical unit name: Veldhoven Formation

Type: Member

Code: VdSo

Author(s):

- Compiled by: Dusar Michiel and Vandenberghe Noël

Alternative names: HCOVv2 hydrostratigraphic code (operated by VMM (2019)) for the Someren Member (named Voort zand 2): A0257.

Origine of the name: -

Status: Formal

Date: 01/05/2022

How to refer: Dusar, M. & Vandenberghe, N., 2023. The Someren Member, 01/09/2023. National Commission for Stratigraphy Belgium. http://ncs.naturalsciences.be/lithostratigraphy/Someren-Member

Characterizing description

Light grey to green fine to very fine glauconiferous mollusc-bearing sand is characteristic for the Someren Member.

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

Borehole Veldhoven-1 (NAM) in Veldhoven (NL), [TNO-GDN (2021), http://www.dinoloket.nl/veldhoven- formation-nmve]. 860-935 m is the stratotype for the Veldhoven Formation. Parastratotype: Borehole Asten-1 (NAM) in Asten (NL), is also the stratotype for the Someren Sand Member (interval 867 – 952 m).

Name derived from Someren, commune in Noord-Brabant, in proximity to location of the parastratotype borehole Asten-1.

Additional Belgian parastratotype borehole Molenbeersel, drilled 1988 till final depth of 1773 m; GeoDoc 049W0226, ground level +33 m; Lambert coordinates x 247660, y 207752, Someren Member: 680 – 774 m from ground level.

Description upper boundary

In the Molenbeersel well the Someren Member is covered by the Bolderberg Formation, at the base of which occur the more greenish, clayey Houthalen Sand, with slightly higher gamma-ray readings. In the Dutch part of the Roer Valley Graben the Groote Heide Formation is the overlying unit, which is also equivalent to the Antwerp Member of Berchem Formation (Munsterman et al., 2019).

Erroneous interpretations have been made in the past. Before the Someren Sand member was formally recognised this sand has been incorporated in the overlying Miocene Bolderberg or Breda formations.

Description lower boundary

The Someren Member is conformably overlying the Wintelre Member, from which it can be distinguished by the presence of clay layers in the latter. The transition is marked by a gradual drop in gamma-ray readings.

Thickness

There is only one site in Belgium where the Someren Member has been positively identified in a borehole, at Molenbeersel, borehole Molenbeersel, designated as new Belgian parastratotype for the Veldhoven Formation. The Someren Member attains a thickness of 94 m in this well, for a total thickness of 295 m of the entire formation, according to Table 1 in Dusar & Vandenberghe, 2020 (cf. Matthijs et al., 2016).

Occurrence

The upper unit or Someren Member is only known from the deepest parts of the Roer Valley Graben in Belgium and extends over adjoining tectonic blocks in The Netherlands.

Regional correlations

The Someren Member can be time-equivalent to the part of the Berchem Formation underlying the black sand of its Antwerp Member.

Age

No datation in Belgium is available. The age is Aquitanian to Burdigalian, based on datation in the Netherlands.

Dataset

Data in this LIS are part of the DOV-Neogene data collection, including links to the GSB-collection data sheets, more specifically in the datasubset NCS_Neogene 2020_Dusar and Vandenberghe, 2020.

Name	GSB name	DOV name	GSB Collections URL	DOV URL
Belgian parastratotype borehole Molenbeersel	049w0226	kb18d49w-B226	https://collections.naturalsciences.be/ssh-geology-archives/arch/049w/049w0226.txt	https://www.dov.vlaanderen.be/data/boring/1987-042705

- Dutch boreholes DINOloket:
    - B51D0127 (Veldhoven-01)
    - B52C0142 (Asten-01)

References

Dusar, M. & Vandenberghe, N., 2020. Upper Oligocene lithostratigraphic units and the transition to the Miocene in North Belgium. Geologica Belgica 23/3-4 - The Neogene stratigraphy of northern Belgium: 113-125 URL : https://popups.uliege.be/1374-8505/index.php?id=6836.

Matthijs, J., Deckers, J., Broothaers M. & De Koninck, R. , 2016. A new lithostratigraphic and seismostratigraphic interpretation of the Cenozoic strata for the Molenbeersel well (049W0226) in the Roer Valley Graben, NE Belgium. In: J.M. Baele, S. Papier, X. Devleeschauwer, N. Dupont, P. Goderniaux, M. Hennebert & O. Kaufmann, eds. 5th International Geologica Belgica 2016 Congress. Mons, 26-29 January 2016. Geologica Belgica Conference Proceedings, vol. 2, p. 257. https://popups.uliege.be/2593-6670/index.php?id=116.

Munsterman, D.K., ten Veen, J.H., Menkovic, A., Deckers, J., Witmans, N., Verhaegen, J., Kerstholt-Boegehold, S.J., van de Ven, T. & Busschers, F.S., 2019. An updated and revised stratigraphic framework for the Miocene and earliest Pliocene strata of the RVG and adjacent blocks. Netherlands Journal of Geosciences, 98, e8. https://doi.org/10.1017/njg.2019.10

TNO-GDN, 2021, Veldhoven Formation, In: Stratigraphic Nomenclature of the Netherlands, TNO – Geological Survey of the Netherlands. Accessed on 13-12-2021 from http://www.dinoloket.nl/veldhoven- formation-nmve.

VMM, 2019. HCOV coding, https://www.dov.vlaanderen.be/page/hydrogeologische-codering-van-vlaanderen-hcov-versie-2, accessed 13/12/2021.