

Pey Bed (Brunssum Member)

Unit name: Pey Bed

Hierarchical unit name: Brunssum Member of the Kieseloolite Formation

Type: Bed

Code: KzPe

Authors:

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Alternative names: The sand unit named Pey sand in this LIS is unnamed in the H30-project but labelled as Ki-z-3 between Ki-k-2 and Ki-k-3 (Duser et al., 2014) or just undifferentiated ki-z in Vernes et al. (2018).

Origin of the name:-

Status: Formal

Date: 01/05/2022

How to refer: Vandenberghe, N., & Duser, M., 2023. The Pey Bed, 01/09/2023. National Commission for Stratigraphy Belgium. <http://ncs.naturalsciences.be/lithostratigraphy/Pey-Bed>

Characterizing description

A fine to medium sized pale grey to white sand intercalated between the two Brunssum clay Beds named upper or I and lower or II. Clay laminae, lignitic levels and clay clasts are present. A 2-3 m thick clay layer in the middle of the sand is reported in the explanatory notes of the geological map 18-10 Maaseik + Beverbeek (Sels et al., 2001). On the geophysical log pattern of the Maaseik (049W0220) the sediments are arranged in a few cycles (Vandenberghe et al., 2005, figs 2 & 10) but in general the log signatures in other boreholes can be quite different. Still the Pey Sand Bed is an important regional hydrogeological layer.

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

The Pey Bed sand reference is the interval 88-120,2 m in the Maaseik (049W0220) cored borehole where the bed has its thickest development in the Belgian part of the RVG and of which analyses and geophysical logs are available (Vandenberghe et al., 2005). Description upper and lower boundary:

As the definition of the Pey Bed requires its intercalation between two Brunssum Clay Beds, the upper and lower boundaries are marked by a transition from sand to clay and are easily picked on geophysical logs.

Description upper boundary

The upper boundary of the Pey Bed is a sharp drop in RES and sharp rise in GR log signals at the contact with the overlying clay of the Brunssum I Bed (Vandenberghe et al., 2005, fig.10).

Description lower boundary

The lower boundary of the Pey Bed is a sharp drop in RES and a sharp rise in GR log signals at the contact with the underlying clay of the Brunssum II Bed (Vandenberghe et al., 2005, fig.10).

Thickness

Thickness of the Pey Bed between 2 Brunssum Clay Member units varies between about 3 and 30 m (Vandenberghe et al., 2005, fig.10).

Occurrence

The Pey Bed can only be identified where 2 Brunssum Clay Beds can be distinguished in the Belgian part of the Roer Valley Graben (RVG).

Regional correlations

The Pey Bed is not listed by the Dutch TNO-GSN (TNO-GSN DINOLOket 2021) but an earlier practice in the Netherlands, comparable to the occurrence between two Brunssum clay Beds as defined above, is conceptually illustrated in the figure below by Wong et al. (2007) (Figure 0-1)

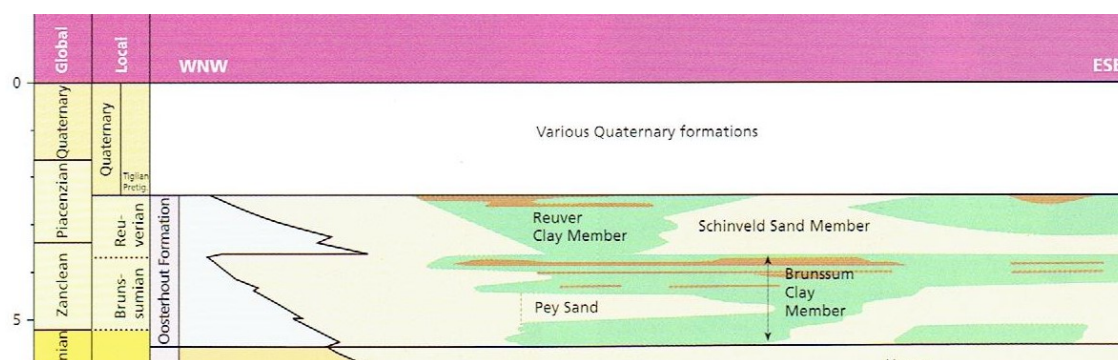


Figure 0-1: The occurrence of Pey Sand between a lower and an upper Brunssum Clay in the southern Netherlands as figured by Wong et al. (2007).

Age

The palynological interpretation by Vanhoorne reported in Vandenberghe et al. (2005) is not contradicting a Brunssumian age as given in Wong et al. (2007). Also in the Maaseik borehole according to Vanhoorne, the Brunssum Clay Bed I, just above the Pey Sand, and the about 20 m above it, have a pollen spectrum ('upper part of palynozone A') comparable to the spectrum in the Maat Lignite Bed of the Mol Formation.

Dataset

Data in the LIS are 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
Maaseik borehole	049W0220	kb18d49w-B220	https://collections.naturalsciences.be/ssh-geology-archives/arch/049w/049w0220.txt	https://www.dov.vlaanderen.be/data/boring/1980-025921

References

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