

## Waubach Member (Kieseloolite Formation)

**Unit name:** Waubach Member

**Hierarchical unit name:** Kieseloolite Formation

**Type:** Member

**Code:** KzWb

**Author(s):**

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**Alternative names/ origin of the name:** As it became clear that the originally described Waubach sand and gravel in the Belgian part of the Roer Valley Graben (RVG) as in Vandenberghe et al. (2005, fig.10) could be systematically split up in 2 parts based on geophysical logs signals (Vandenberghe et al. 2020 fig. 6), the terms Lower and Upper Waubach Member were used (Louwye & Vandenberghe, 2020, fig. 3); since it became clear that the lower part of Waubach sand and gravel could be identified as the Inden Formation, the name Waubach Member is now reserved for its former upper part, but without the prefix upper.

It is not clear how the upper and lower Waubach terms used above the Inden Formation in the scheme by Wong et al. (2007) in the adjacent Dutch RVG (Figure 0-1) correspond to parts of the Waubach Sand as described above. Probably the clay shown at the contact between the two parts on the scheme is related to the clay horizon labelled Ki-k-4 and underlain by a sand unit Ki-z-5 by Dusar et al. (2014) Ki-k-4 and Ki-z-5 are absent in the Belgian part of the RVG . The Waubach Sand Member present in the Belgian RVG is labelled Ki-z-4 by Dusar et al. (2014) (see Figure 0-3 in LIS Kieseloolite Formation).

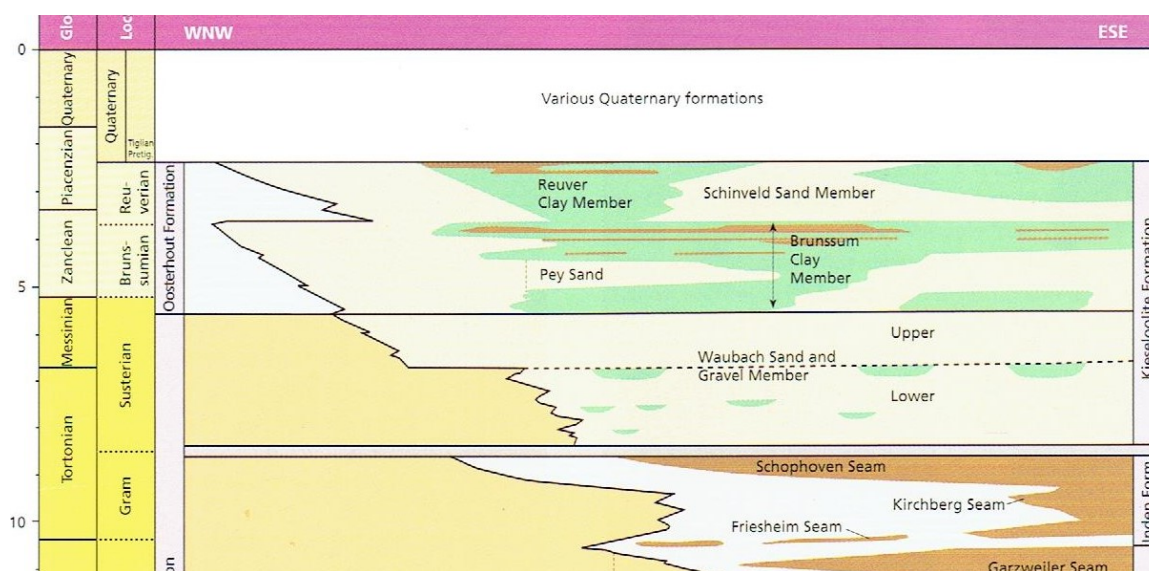


Figure 0-1 The stratigraphic position of the Waubach Sand and Gravel Member with respect to the Brunssum Clay and the Inden Formation in the southern Netherlands (Wong et al., 2007). Note also the subdivision into an lower and upper Waubach unit separated by discontinuous clay beds.

**Status:** Formal

**Date:** 01/05/2022

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

### **Characterizing description**

The main lithology is pale grey to white quartz-enriched sand. The sand is fine to medium grained and becomes coarse to even gravelly, especially at the base of the member. Thin clay laminae, ripped up clasts and some lignitic particles may be present and organic colloids can stain parts of the sand purple. Van der Sluys (2000) notes that gravel is rare in the Belgian RVG and that from top to base, the resistivity decreases and the difference between short and deep resistivity values decreases as well as can also be observed on the resistivity logs of the Maaseik borehole ( 049W0220) (Vandenberghe et al., 2005, fig.2).

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

The 127- 166 m interval in the Maaseik borehole (049W0220) ( Vandenberghe et al., 2005) is chosen as the reference section.

### **Description upper boundary**

The top of the Waubach Member is the base of the overlying lignite and clay of the Brunssum II clay Bed, easily identified by a sharp change in the natural radioactivity and resistivity signals.

### **Description lower boundary**

A sudden drop in the spontaneous potential signal and a marked short drop in resistivity signal, are characterising the lower boundary (see e.g. Louwye & Vandenberghe (2020, fig 2). It probably corresponds to a thin level with lignite and clay fragments in otherwise coarse sand. Below occurs the Inden Formation.

### **Thickness**

The thickness is 25- 55 m, based on Vandenberghe et al. (2020, fig. 6).

### **Occurrence**

The Waubach Member as defined in the Maaseik reference borehole occurs in the Belgian part of the RVG east of the main bordering faults of Heerlerheide and Reppel.

### **Regional correlations and age**

Vandenberghe & Louwye (2020, fig. 3) and Louwye & Vandenberghe (2020, fig.3) (Figure 0-2) have integrated the available stratigraphic information of the upper Miocene units. They concluded that in the RVG the presently defined Waubach Member is probably a time equivalent facies of the clayey part of the Kasterlee Formation and of the overlying Retie Member of the Mol Formation ( see LIS Mol Formation). This Retie Member is the now formalised 'lower Mol' or 'Kasterlee-sensu-Gulinck' lithostratigraphic unit described in the Neogene-2020 volume. The Retie Member is for lithological reasons ranked in the Mol Formation. The Waubach Member probably correlates with the Hauptkies in the Lower Rhine area however , detailed correlations between both areas remain hypothetical.

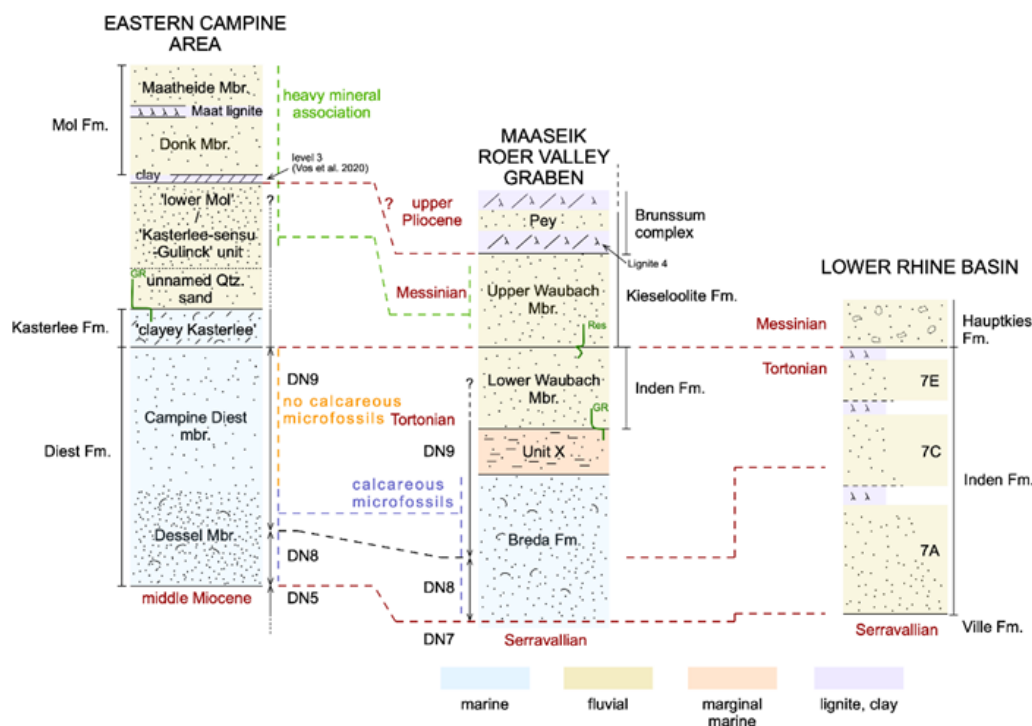


Figure 0-2 The Waubach Member as defined in the present LIS corresponds to the formerly used Upper Waubach Mbr figured in the Belgian RVG stratigraphy by Louwye and Vandenberghe (2020); note that the formerly used Lower Waubach Member in this scheme is in the present interpretation considered to be part of the Inden Formation defined in the Lower Rhine area. (Louwye and Vandenberghe, 2020)

**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	<a href="https://collections.naturalsciences.be/ssh-geology-archives/arch/049w/049w0220.txt">https://collections.naturalsciences.be/ssh-geology-archives/arch/049w/049w0220.txt</a>	<a href="https://www.dov.vlaanderen.be/data/boring/1980-025921">https://www.dov.vlaanderen.be/data/boring/1980-025921</a>

**References**

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