

# National Commission for Stratigraphy Belgium

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## Wachtebeke

### Cretaceous

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#### Wachtebeke Member NEW

**Name:** Derived from Wachtebeke commune (province of East-Flanders, 20 km NNE of Ghent)

**Stratotype:** Wachtebeke borehole GeoDoc 041W0179; Lambert coordinates x=117170, y=204550, z (ground level) = 5 m; depth interval 316 - 336 m. Well drilled in 1999 by AMINAL. Cored from 298.20 m to base Cretaceous. Geophysical well log: natural gamma ray logged through casing.

**Description:** Greyish white, homogenous, very fine-silty, strongly indurated chalk. Rarely silex (flint) bearing. The bottom beds consist of light greenish grey, glauconitic marlstone.

**Overlying strata:** White, softer, more porous chalk, displaying typical Nevele facies.

**Underlying strata:** Unconformably overlying Namurian to Devonian strata of the western margin of the Campine Basin and Cambrian to Silurian strata of the Brabant massif; towards the axis of the Brabant Massif overlying a paleoalteration surface. At the type section, the underlying strata are composed of grey sandstone to shale (assigned to the Corroy Formation of Silurian age). Locally, pockets with metric thickness of silicified chalk are present underneath the chalk of the Wachtebeke Member. These are provisionally assigned to the Esplechin Formation of comparable lithological composition, but might be of different age.

**Thickness:** 20 m in the Wachtebeke borehole; comparable thicknesses are found in other boreholes.

**Age:** probably of early Campanian age, based on assumed lateral transition in the Vaals Formation. No biostratigraphical dating available at the type locality. Tentative correlation to biostratigraphically-dated boreholes Doel (Jagt, 1999; Louwye, 2000), Knokke (Laga & Vandenberghe, 1990), Turnhout (Slimani, 2000) and to the ecozonation established by P.J. Felder (1994).

**Geographical distribution:** Northern slope of Brabant Massif and western margin of Campine Basin. Best expressed in its eastern area, between Brussels, Loenhout and in the northeastern part of East-Flanders. Often absent in the remaining part of East-Flanders including the Nevele type section. Again present in the northwestern part of the Brabant Massif, including the Knokke borehole but losing its distinctive lithofacies signature. Therefore it is only mapped in its eastern distribution area. The reason for the possible distinction of the Wachtebeke Member in this area is probably caused by some siliciclastic impurity, derived from the uplifted Roer Valley Graben and West Netherlands Basin, though much less than in the adjoining area where the Vaals Formation still can be distinguished.

For mapping purposes VITO has introduced the informal name 'Stekene' for the overlying chalk displaying typical Nevele formation facies.

**Historical background:** The Nevele Formation was introduced to group all, generally undifferentiated chalk deposits on the western and central parts of the Brabant Massif (Dusar & Lagrou, 2007). In older GeoDoc archives, certainly those predating geophysical well logging, known as "white chalk - Cretaceous chalk or Senonian chalk". More precise lithostratigraphical information nor correlation to the stratigraphical schemes of the outcrop areas have been provided.



Legend: Gamma-ray well log correlation of the Nevele Formation through the northern part of East-Flanders. The Wachtebeke Member is the lower part of this section with more compact slightly grayish chalk (section 316-336 m in borehole Wachtebeke 41W0179).