

# Stratigraphy of the Thermal Water Area (Baden - Bad Vöslau) at the Western Border of the Southern Vienna Basin

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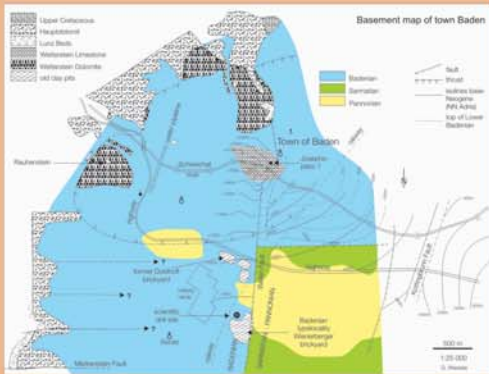
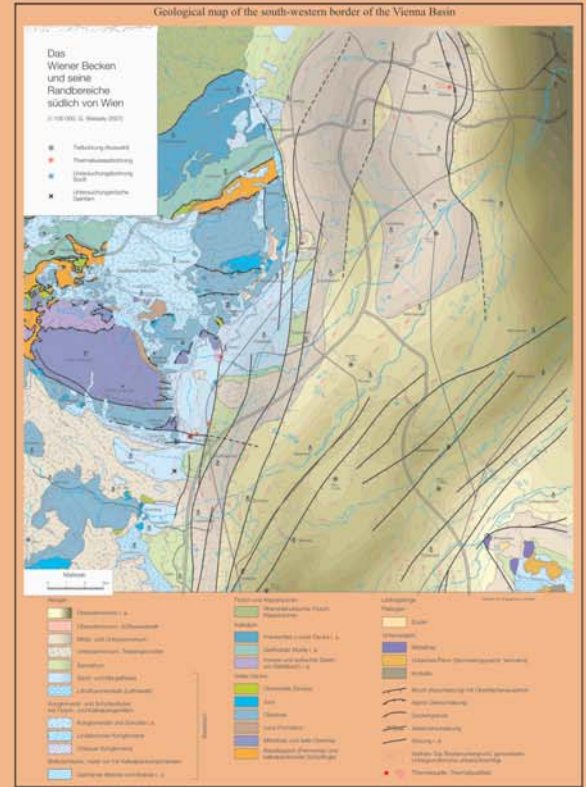
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The stratigraphic results in the area of Baden and Bad Vöslau are based on boreholes drilled for production of thermal and mineral water and on natural and artificial outcrops. They opened the opportunities for investigations of micro- and nanofossils, ostracods and pollen as important contributions to the stratigraphy of the Neogene in general and to that of the Southern Vienna Basin in particular.

The area is situated at the western Alpine border of the basin, where the transition of the Neogene marginal facies to the basinal development takes place. A special advantage of the paleontological studies is to enable correlations of the near shore sediments with a well founded stratigraphic scheme of the basin. Monomictic Gaimfarn breccias are placed into a lower horizon of the Badenian Lagenid Zone. Coarse clastics as the "Vöslau Conglomerate", the "Lindabrunn Conglomerate" and similar conglomerates can be correlated with the upper part of Lower to Upper Lagenid Zone. According seismic profiles gravel fans extend far into the Vienna Basin. The younger Badenian, in the Zone of agglutinated Foraminifera consists of sand, marl, gravel and some coal. Eastward, toward the interior of the Vienna Basin Sarmatian and Pannonian sediments appear, subsided mainly by faults.

The Calcareous Alpine border and the nearby drilled sections below the basin consist of Triassic carbonates, which contain the aquifers of thermal and mineral waters. By circulation systems cold waters from alpine recharging areas flow deep under the basin. Heated, mineralised and over-pressured waters descend along tight faults and are forced back to the border, where discharging in springs and boreholes takes place in Baden and Bad Vöslau along the so-called "Thermenlinie".



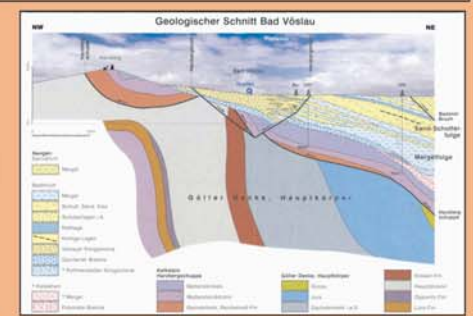
Old Wienerberger brickyard Baden-Soos



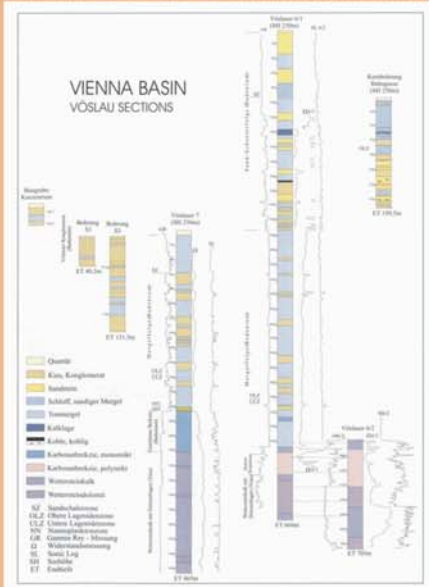
Scientific drill site Baden-Soos



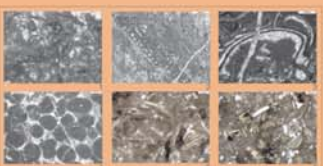
Stratigraphic scheme of Bad Vöslau area



Geological section of Bad Vöslau



Correlation of bore-holes in the town Bad Vöslau



Microfossils of Mesozoic limestones  
 1. Silesitium - Limestone  
 2. Wetterstein - Limestone  
 3. Krasens Formation  
 4. Rhaetian Oolite  
 5-6. Klaus - Limestone

Mesozoic from Badenian marls (Bad Vöslau)

- Foraminifera**
- Puzosia curva* (Blas) Vöslau, Badenian, Lower Lagenid Zone.
  - Orbulina suturalis* Holmström, Vöslau, Badenian, Lower Lagenid Zone.
  - Globobulimina albigera* Cushman, Vöslau, Badenian, Lower Lagenid Zone.
  - Fugulinella lugens* (Linné), Water drill hole Vöslauer 7, 220m, Badenian, Lower Lagenid Zone.
  - Leontocella exilis* (D'Orbigny), Vöslau, Sample 1, Badenian, Upper Lagenid Zone.
  - Uperina propinqua* Papp & Tarnovsky, Water drill hole Vöslauer 7, 220m, Badenian, Lower Lagenid Zone.
  - Uperina griffi* Schmidt, Water drill hole Vöslauer 7, 235m, Badenian, Lower Lagenid Zone.
  - Sponerella curvata* (D'Orbigny), Water drill hole Vöslauer 7, 10m, Badenian, Zone agglutinated foraminifera.
  - Puzosia curva* (Blas) & Moll, Vöslau, Badenian, Lower Lagenid Zone.
- Calcareous nanoplankton**
- Coccolithus asperipoliger* Bukly, 1971, Vöslau, Sample "Scharf 10".
  - Coccolithus heteromorphus* DeLafayette, 1953, Vöslau, Sample "Scharf 10".
  - Gemmatillia rotula* Kappeler, 1956, Vöslau, Sample "Scharf 10".
  - Heliophragmina ampligera* Brantini & Wilcoxon, 1967, Vöslau, Sample 2b.
  - Heliophragmina scissa* Miller, 1961, Vöslau, Sample 2b.
  - Heliophragmina wallerudensis* Müller, 1974, Vöslau, Sample "Scharf 8".
  - Actinocyclus pseudocylindricus* Gartner, 1967 Gartner, 1969, Vöslau, Sample "Scharf 8".
  - Dicranaster variabilis* Martin & Bhandari, 1963, Vöslau, Sample 2b.
  - Dicranaster adamsianus* Martin & Bhandari, 1963, Vöslau, Sample 2b.
  - Rhabdophyllum elongatum* Murray & Blackman, 1938, Vöslau, Sample "Scharf 8".
  - Rhabdophyllum sicca* Stralauer, 1963, Vöslau, Sample No. 1.
  - Heliophragmina curvata* (Wälfisch, 1877) Kappeler, 1954, Vöslau, Sample 2b.
- Ostracoda**
- Cyrtocella cuneata* Aulio et al., 1996, Vöslau, Sample No. 1.
  - Gastropyclypeus distalveus* (Ramus, 1850), Vöslau, Sample "Scharf 8".
  - Acambocylindrus hystrix* (Ramus, 1850), Vöslau, Sample No. 1.
  - Costa bairdii* (Brady, 1866), Vöslau, Sample No. 1.
  - Acambocylindrus glaberrimus* (Ramus, 1850), Vöslau, Sample No. 1.
  - Buccinum subulatum* (Ruggieri, 1954), Vöslau, Sample No. 1.
  - Cyrtocentrum agglutinatum* Aulio & Szecsschazi, 2004, Vöslau, Sample No. 1.



Karst fissures in deep-well Vöslauer 7

