# NEW STRATIGRAPHIC AND MINERALOGICAL DATA OF NEOGENE SEDIMENTS FROM THE CITY OF VIENNA (VIENNA BASIN)

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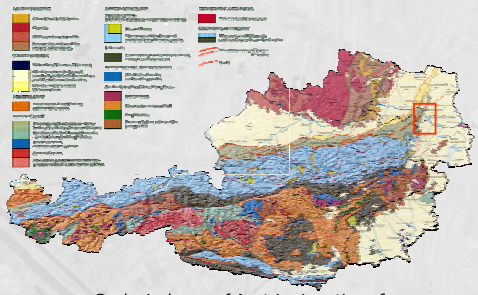
## INTRODUCTION

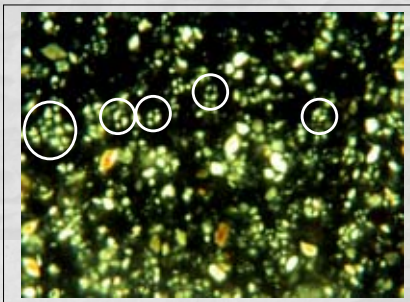
In the urban area of the City of Vienna, sediment exposures due to construction sites or shallow boreholes offer valuable but short-lived information on the geology of the subsurface. To document these temporary outcrops geosientifically, a joint project between the Municipial Department MA29 of the City of Vienna and the Geological Survey of Austria was carried out over a period of six years.



Geological map of Austria: Location of study area (City of Vienna) indicated

## METHODES

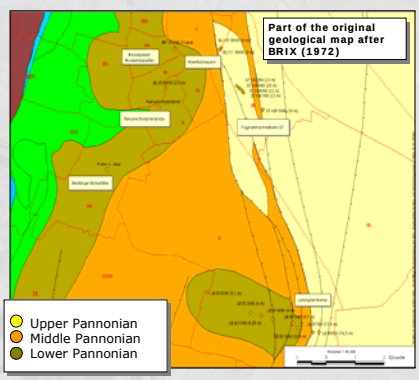
The project focused on the lithological documentation of construction sites. Each sample was classified stratigraphically utilizing mollusces, ostracodes, foraminifers and calcareous nannofossils. Further methodes used were determination of grain size, of whole rock composition and clay mineralogy.

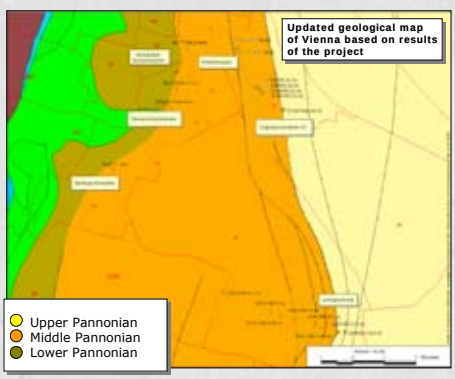


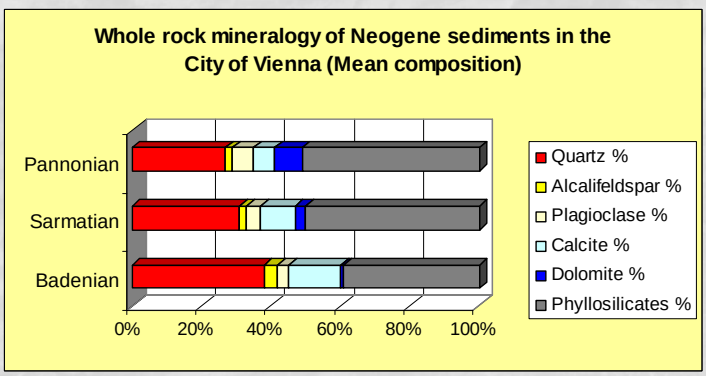
Bloom of *Reticulofenestra tegulata* Coric & Gross, 2004 in grey marl from Kabelwerk, Vienna. The occurrence of this autochthonous calcareous nannoplankton was described also from *Mytilopsis ornitopsis*-bearing strata of the clay pit Mataschen, situated in the Styrian Basin (Austria). Monospecifical occurrence of this endemical nannoplankton form, caused by changed paleoecological conditions, were documented in Pannonian sediments from other parts of the Central Paratethys (Našice, Croatia and Beočin, Serbia & Montenegro).

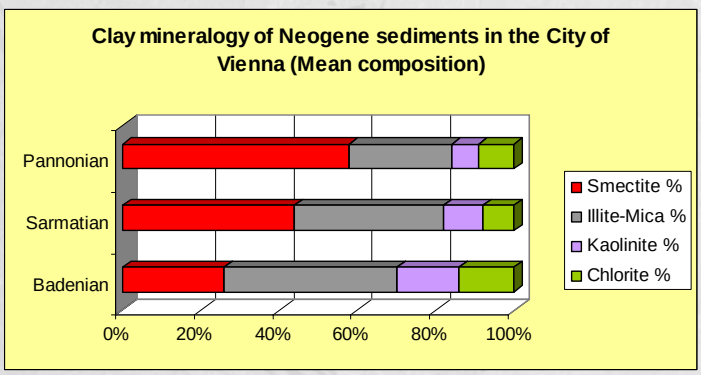
## BIOSTRATIGRAPHIC RESULTS

New biostratigraphic classification showed a different distribution of Pannonian sediments compared to existing geological maps after BRIX (1972).




## WHOLE ROCK MINERALOGICAL RESULTS

Whole rock composition shows an increase of phyllosilicates and a decrease of quartz from Badenian to Pannonian deposits.

This trend is also accompanied by grain size analyses, which indicate a gradual fining-upward trend.

## CLAY MINERALOGICAL RESULTS

Semiquantitative composition of clay minerals in the fraction < 2µm show a clear trend: There is an obvious shift from illite-mica dominated assemblages in Badenian sediments to smectite dominated spectra in Pannonian sediments. This suggests a correlation between grain size and mineralogical composition.

**EFFECTS OF CLIMATE:** Another influencing factor is the climate. The high amount of kaolinite in Badenian sediments corresponds to the climatic optimum at that time. The dominance of smectite in Pannonian sediments reflects dry conditions and seasonal variations.

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