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This work presents results of detail logging of cores the exploration borehole KC-4 (44.544115 N, 19.67293 E). The lithostratigraphic log of a total thickness of about 600 m includes the Miocene succession (Badenian, Sarmatian and Pannonian) that transgressivly overlying Triassic. As is well known, in the area of the southern part of the Pannonian Basin, the Paratethys transgression is occurred into Early Badenian.

Badenian is distinguished by lithofacial diversity resulting from sedimentation in various parts of the basin. The basal part of the Badenian succession consists of coarse clastites in alternation with sand-clayey and clayey silts (425–485 m). This corresponds to the initial phase of the marine transgression, and coarse clastites were built mainly from the fragments of Triassic limestone. Fossil foraminifers *Globigerinoides trilobus*, *Orbulina suturalis* and *Orbulina bilobata* found in these sediments indicate the Lower Badenian. These clastites underlie the package of carbonate sands and limestone that has been developed to the depth of 355 m. Based on preliminary micropaleontological analysis, the whole interval between 355–485 m would correspond to the Lower Badenian, i.e. Lagenid Zone. The next package of fine-grained clastites and marls (295–355 m) contains a foraminifer association pointing to the Middle Badenian *Spirorutilus carinata* Zone. The youngest levels of Badenian (195–295 m) are represented by the finest clastites and marls, predominantly. Biostratigraphically, it corresponds to the *Bulimina–Bolivina* Zone and *Ammonia beccarri* Ecozone.

At a depth between 155–195 m, high-carbonate sands, gravels and coaly clays that correspond to the initial levels of Sarmatian were discovered. Small forms of *Elphidium* and *Ammonia*, rare specimens of *Porosononion* sp., and numerous fragments of freshwater gastropods (*Planorbis* sp.) indicates the lower Sarmatian marine-brackish development. Above this, a package of sandy-marl sediments that ends with a thin layer of carbonate sands and limestones (up to depth of about 90 m) marks the youngest level of Sarmatian. Gastropods such as *Valvata sarmatica*, *Pseudoamnicola* sp., *Gibbula* sp., benthic foraminifers (*Elphidium fichtelianum*) and ostracodes (*Aurila mehesi* and *Aurila* cf. *kollmanni*) mark the foraminifer Zone of small elphidiums.

At the top of borehole, the sand and silt deposits of the Lake Pannon with total thickness about 90 m were found. Inside this package, there are fragments of large mollusks (*Limnocardium* sp., *Congeria* sp.) and numerous ostracodes with domination by the representatives of the genera *Congeria* sp.) and numerous ostracodes with domination by the representatives of the genera *Cyprideis*, *Amplocypris*, *Hemicytheria* and *Candona*.