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TECTONO-LITHOSTRATIGRAPHIC MODEL OF THE NORTHERN BANAT MIOCENE SEDIMENTS (PANNONIAN BASIN, SERBIA)

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The Neogene back-arc Pannonian Basin lies in southeastern Europe and extends over several countries. The area of interest represents the most attention-grabbing part of Pannonian Basin in Serbia due to its hydrocarbon potential as well as for complex geology and presence of deepest depressions. The hydrocarbon exploration in this area is almost 70 years old which led to large amount of high quality data. At the other side, still there are very limited amount of published papers with couple of exceptions in last decade (STOJANOVIĆ et al., 2007, JELENKOVIĆ et al., 2008, ŠOLEVIĆ et al., 2008, RADIVOJEVIĆ et al., 2010, PIGOTT & RADIVOJEVIĆ, 2010, MATENCO & RADIVOJEVIĆ 2012, MAGYAR et al., 2013).

The database consisted of numerous seismic data, both 2D and 3D, and exploration wells data allowed building of subsurface model of explored area. Special emphasis was placed on the Miocene sediments which are the most valuable part of sedimentary cover due to its economic significance.

The extension of the Pannonian Basin has not occurred simultaneously throughout the area, and it is possible to speak only about synrift and postrift stage in the broader sense (MATENCO & RADIVOJEVIĆ, 2012). In the Serbian northeastern part of Pannonian Basin, sediments of the Lower and Middle (Badenian and Sarmatian) Miocene are assigned to synrift stage. The exemption is Srpska Crnja depression, where synrift phase is somewhat younger and correspond to the Upper Miocene (Pannonian).

The fossil remains are completely absent in Lower Miocene sediments which lies directly below well documented Middle Miocene, and their age was generated based on the analogy with the neighboring areas. The Badenian sediments are mostly represented with its lower part while middle and upper stages are confirmed just on the couple of wells. The thickness of the siliciclastic, carbonate and volcanoclastic sediments is a few dozen meters, while toward the south Badenian sediments becomes considerable thicker (RADIVOJEVIĆ, 2014). Sarmatian sediments are much less present then Badenian one and could be found in a very limited area. Generally, these sediments are very thin and represented with siliciclastics and limestones.

The Pannonian, Pontian, Pliocene and Quaternary sediments belong to postrift stage in the broader sense and lays unconformably over the Middle Miocene. A division of Miocene sediments is straightforward until its upper part. Sediments deposited at time of Lake Pannon, based on the stratigraphic division of the Central Paratethys, belong to the Pannonian and Pontian stage (*sensu* Stevanović). Due to delta progradation from the northwest direction toward southeast, these sediments are younger in Serbia than in neighboring Hungary (MAGYAR et al., 2013, RADIVOJEVIĆ, 2014, RADIVOJEVIĆ & RUNDIĆ, 2016). The sedimentation of the Upper Neogene in the Pannonian Basin for long has been poorly understood because the lithostratigraphic units were correlated and interpreted in chronostratigraphic sense. At the investigated area Pannonian sediments can be roughly

correlated with the Hungarian Endrőd and Szolnok formations, while Algyő and Ujfalu formations are correlated with the Pontian deposits. Those fluvial-deltaic deposits make up the largest portion of the sediments which filled this part of Pannonian Basin.

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MODELING OF ECOLOGICAL CONDITIONS IN THE EUXIN BASIN IN THE LATE SARMATIAN AND MAEOTIAN BY METHODS OF DIATOM ANALYSIS

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Modern diatom associations of the Black Sea have more than 30% of the species known in the Sarmatian and more than 20% the common ones with Maeotian. Therefore, the study of the ecological distribution of modern diatoms of Black Sea provides an opportunity to understand the ecology of the Neogene Euxin basin (NEB).

Along the Black Sea coast, several ecological areas have been identified based on the composition and abundance of diatom (PROSHKINA-LAVRENKO, 1955, 1963). We are most interested in 1. Eastern area 2. Kerch area 3. North-western area, differing in hydrology, type of shore,