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KORELACIJA GORNJOMIOCENSKIH LITOSTRATIGRAFSKIH JEDINICA JUŽNOG DELA PANONSKOG BASENA

THE CORRELATION OF UPPER MIOCENE LITHOSTRATIGRAPHIC UNITS OF THE SOUTHERN PART OF THE PANNONIAN BASIN

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Ključne reči: gornji miocen, litostratigrafske jedinice, formacije, Panonski basen
Key words: Upper Miocene, lithostratigraphic units, formations, Pannonian Basin

Sažetak

Panonski basen je klasičan izalučni basen, formiran tokom miocena. Riftogeneza se odvijala po modelu asimetričnog jednostavnog smicanja. Analiza sinkinematiskih seizmičkih refleksija pokazuje da je normalno rasedanje migriralo vremenski i prostorno i da se odvijalo u toku velikog vremenskog intervala (otprilike 20 – 5.5 Ma).

Sistem panonskog basena obuhvata veći broj subdepresija, pa mogu se izdvojiti regioni različite starosti, razvijeni na podlozi raznih afiniteta, sa različitim debljinama sedimenata. Ovaj rad u fokus stavlja južni deo Panonskog basena, i to one delove koji su dobro proučeni i gde su izdvajane litostratigrafske jedinice u okviru gornjeg miocena. Konkretni prostor obuhvata severni Banat u Srbiji, jugoistočne delove Mađarske, kao i delove Hrvatske (Slavonske gore i Hrvatsko zagorje).

Opisane litostratigrafske jedinice su u nivou formacije i člana, a izdvojene su na osnovu litološkog sastava, depozicione sredine, korišćenjem podataka sa terena i iz bušotina, i geofizičkih metoda (reflektivna seizmika i geofizički karotaž).

Ovakva korelacija ima veliki značaj za poznavanje kompletnog Sistema Panonskog basena. Pored toga, poseduje i ekonomski značaj: bolje razumevanje vremena i karaktera depozicije dovodi i do boljeg razumevanja naftnogeološkog sistema.

U nastavku su navedene sve litostratigrafske jedinice na nivou formacije. Geolozi koji se bave proučavanjem Panonskog basena za iste formacije koriste drugačije nazive, što otežava korelaciju. Stoga, prvo su navedeni mađarski, srpski i zatim hrvatski nazivi. Pored toga, navedena je depoziciona sredina kojoj formacija pripada.

1. Endrőd – Hetin – Medvedski Breg: jezerska dubokovodna sredina
2. Szolnok – Majdan – Andraševac (donji deo): dubokovodni turbiditi
3. Algyó – Mokrin – Andraševac (gornji deo): sedimenti padine
4. Újfalu – Kikinda – Nova Gradiška: plitkovodni deltni sedimenti

Gruba naftnogeološka klasifikacija ovih sedimenata bi bila: Formacija 1 – matične stene; Formacija 2 – rezervoar stene; Formacija 3 – zaštitne stene; Formacija 4 – rezervoar stene.

Abstract

The Pannonian basin is a classical back-arc basin formed during Miocene times. The rifting took place along asymmetric simple shear extensional mechanism. The analysis of syn-kinematic reflectors demonstrates that normal faulting migrates in time and space and took place on a wide Miocene time interval (roughly 20 – 5.5 Ma).

The Pannonian Basin System encompasses a number of subdepressions, regions with varying age, deposited over different basement rocks and with different sediment thickness. The focus of this paper is the southern part of the Pannonian Basin, and more specifically, the parts which have been well-documented and where the formational analysis has been carried out. The concrete areas are: North Banat (Serbia), southeastern parts of Hungary (Great Hungarian Plain), as well as some parts of Croatia (Slavonian mountains and Hrvatsko zagorje area).

The described lithostratigraphic units are on the level of formations and members and are characterized by their lithological content, depositional environments, using field and borehole data, and geophysical methods (reflection seismics and geophysical well-logging).

Such correlation has great significance for the knowledge of the Pannonian Basin System. Besides that, it also has a practical role: a better understanding of the time and character of deposition leads to a better understanding of petroleum geology.

Further in the text, those units with formation rank are listed. Geologists who study the Pannonian basin use different names for the same formations, thus making correlation more difficult. According to this, the first name is the Hungarian one, then the Serbian one, and after that the Croatian one. Furthermore, the depositional environment is indicated after the name.

1. Endrőd – Hetin – Medvedski Breg: hemipelagic lacustrine environment
2. Szolnok – Majdan – Andraševac (lower part): basinal turbidites
3. Algyő – Mokrin – Andraševac (upper part): slope sediments
4. Újfalu – Kikinda – Nova Gradiška: shallow-water deltaic sediments

A rough petroleum geological classification of these formations would be like this: Formation 1 – source rocks; Formation 2 – reservoir rocks; Formation 3 – seal rocks; Formation 4 – reservoir rocks.

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