



Full depositional cycles and Ca/Mg ratio in marine upper Baku registage succession in the Western flank of the South Caspian depression

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The results of the field works on exposures of the Lower Pleistocene deposits located in the Western flank of the South Caspian depression (Shikhov outcrop) demonstrated the high-frequency cyclicality in sedimentation accompanied by rapid lateral and vertical depositional environmental change. It is possible to observe several full depositional sequences developed from low stand system tract to transgressive system tract and high stand system tract. Return to sedimentation under conditions of sea level low stand marks beginning of the next depositional cycle. The depositional setting during accumulation of this succession has changed within shore face-shelf environment.

On the background of these cycles, the depositional series of higher order containing sediments formed during very small-scale sea level fall and rise occur. Below I give the lithofacial characteristics of one full depositional cycle and our interpretation of depositional environment during its sedimentation.

Bedset I is subdivided into 10 interbeds with total thickness 2m70cm. Lithologically represented by alternation of sand, sandstone, sandy organogenic limestone, organogenic limestone and shelly sandstone. We consider these series as high stand system tract.

Bedset II is the massive and homogeneous, thickness 1m10cm. Lithologically represented by organogenic limestones. We consider these series as low stand system tract.

Bedset III is subdivided into 7 interbeds with total thickness 1m5cm. Lithologically represented by alternation of sand, sandstone, sandy organogenic limestone, organogenic limestone and shelly sandstone. We consider these series as high stand system tract.

Bedset IV is the massive and homogeneous, thickness 2m. Lithologically represented by organogenic limestones. We consider these series as low stand system tract.

Bedset V is subdivided into 13 interbeds with total thickness 4m30cm. Lithologically represented by alternation of sand, sandstone, sandy organogenic limestone and shelly sandstone. We consider these series as transgressive system tract.

Bedset VI is subdivided into 12 interbeds with total thickness 2m78cm. Lithologically represented by alternation of muddy sandstones sand, sandstone, sandy organogenic limestone and shelly sandstone. We consider these series as high stand system tract.

We also carried out the faunal analysis, which displays an insignificant presence of mollusk fauna mainly represented by *Didacna* and *Dreissensia* and mostly developed in the organogenic limestones. However our studies demonstrated the abundance of Ostracoda shells represented by genera *Trachyleberis*, *Loxoconcha*, *Leptocythere*, *Cyprideis*, *Cythereis*, *Xestoleberis*, *Candona*, *Caspiocypris*, *Mediocytherideis*, *Caspiella* and etc.

The quantitative changes of ostracoda composition for each interbed depending on paleotemperature fluctuation in detail to point out the tendency of increasing and decreasing of Ca/Mg ratio in shells as indicator of paleotemperature. Carried out biogeochemical analyses also have shown, that amount of the studied elements, including Ca and Mg considerably vary in a section, which reflect the change in depositional setting during accumulation of sediments.