AP07

Tectonic Record of Ophiolite Obduction in the Sedimentary Sequence of the Pust-e-Kuh Arc, Simply Folded Belt, Zagros Mountains (Lurestan, Iran)

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SUMMARY

The emplacement of ophiolite and radiolarite obduction complexes (e.g. Kermanshah and Neyriz) on top of the north-eastern Arabian margin started during the Cenomanian – Turonian in most of the Zagros Belt. In the Pusht-e Kuh Arc (north-west Zagros), where the latest thrust emplacement has been dated as Early Maastrichtian, the effects of the concomitant lithospheric loading can be observed in the Late Cretaceous – Early Eocene sedimentary record. Lithofacies study of the carbonate-dominated Barremian – Aptian Khami Group and Albian – Campanian Bangestan Group, deposited during the transition from passive to active margin, show their evolution is associated to 13 major eustatic cycles. The deposition of the Cenomanian – Turonian Upper Sarvak Formation is characterised by a northwards progradational platform-basin transition. Detailed paleofacies maps of this interval reveal a SE-elongated paleohigh with at least four periods characterized by normal faulting followed by karstification related to flexing of the foreland margin along the forebulge domain. This period is also characterized by incipient folding as determined in the Khorramabad region where the Upper Sarvak platforms show karstification and progradation away from the culmination of the anticline. Subsequently, the Campanian – Maastrichtian Gurpi Formation recorded higher subsidence and filled the entire foreland basin. The Amiran fan deltas in the inner part of the basin also show deflection around the growing Khorram-abad anticline during Maastrichtian time. The Maastrichtian to Early Eocene infill of the Amiran basin wedges out towards the southwest, with a maximum thickness of 1,500 m in its central part. This shallowing upwards mixed clastic-carbonatic basin infill is diachronous and progrades south-westward at a rate of c. 5.5 mm/year. The sedimentary record analyzed in Lurestan may be compared to the early foreland basin successions in Oman where chronology related to obduction and emplacement of the Semail Ophiolite is well-known.