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Book Reviews

LETURMY, P. & ROBIN, C. [Eds.] (2010): **Tectonic and Stratigraphic Evolution of Zagros and Makran during the Mesozoic–Cenozoic.** – Geological Society, Spec. Publ., **330**, 360 pgs., ill., London.

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Resulting from the collision of the Arabian and Eurasian plates during Cenozoic times, the Zagros fold-thrust belt (ZFTB) extends for approximately 2000 km from Turkey to the Hormuz Strait, and separates the Arabian platform from the large plateau of central Iran. In the Zagros Mountains, the geodynamic evolution of the area is mainly linked to the opening and closure of the Neo-Tethys Ocean.

Only a few recent data were available on the southern Tethys margin preserved in the Zagros Mountains. The Middle East Basins Evolution (MEBE) program (2003–2006) run by a consortium of major oil companies was an excellent opportunity to go back to the field and to collect new data to better constrain the evolution of this margin. The final meeting of MEBE was held during the EGU General Assembly 2007 in Vienna having a special MEBE Session. This volume sums up 13 papers presenting the most important results of the MEBE project.

Paul et al. focus their paper on the crustal and lithospheric structure of the ZFTB based on geophysical data. Using receiver function analysis they show that the crust is thickened north of the main Zagros reverse fault (MZRF) under a wide zone including the Sanandaj-Sirjean zone, the Urumieh-Dokhtar magmatic assemblage and the central domain.

Hatzfeld et al. integrate global positioning system (GPS) velocities and work on earthquakes, tectonics and Quaternary geology in support of a compelling reconstruction of Zagros kinematics.

Regard et al. investigate the structure and dynamics of the transition from collision adjacent to the Zagros ranges to subduction at the Makran trench. They present a synthesis of geological and geophysical data acquired during the last 10 years in the area.

Navabpour et al. document the tectonic evolution of the southern Neo-Tethyan margin prior to the Arabian-Eurasian collision in the High Zagros belt of the Fars province. They present syndepositional normal fault slip data and reconstruct timeconstrained palaeostress tensors. The data clearly show two sets of direction of extension.

Aubourg et al. provide a synthesis of the Tertiary tectonics in the Western Fars arc in Iran based on the comparison of magnetic fabrics with palaeostress results and active tectonic indicators. These data are used to define the structural evolution of the chain during the Palaeogene to Quaternary.

Leturmy et al. combine a morphological and a structural analysis to characterize the geometry of basement faults involved in the Zagros folded belt during Cenozoic shortening and to propose a relative chronology between folding and basement faulting.

Burberry et al. present a conceptual model to discriminate between different folding mechanisms and they apply it to the Fars arc in the Zagros folded belt. This model is based on the geometric characters of the folds, folding development and on the morphology associated with them.

Emami et al. provide a documented analysis of the Anaran anticline, a structure associated with the mountain front flexure in NW Zagros. In this study, field data are interpreted with the help of analogue experiments to reconstruct the kinematics of the frontal structure.

Robin et al., through a biostratigraphic, sedimentological and sequence stratigraphic study, analyse the Mesozoic deep-water carbonate deposits from the southern Tethyan passive margin in the Pichakun nappes (Neyriz area). They propose a new lithostratigraphic framework, dated by radiolarians from Middle Jurassic to Late Cretaceous.

Piryaei et al., based on the analysis of the sedimentary record, study the tectonic evolution of the northeastern Arabian plate margin (Fars Province, SW Iran) during Late Cretaceous times, and its evolution from a passive to an active margin.

Hajikazemi et al., through a diagenetic study of the Sarvak Formation (Cenomanian–Turonian) main oil reservoir in southern Iran, show the importance of subaerial exposure and meteoric diagenesis, associated with the regional Turonian unconformity, for the highly variable porosity and permeability of those rocks.

Hosseini-Barzi analyses the diagenetic evolution, in both time and space, of the Plio-Pleistocene syntectonic sediment of the Makran subduction zone of Iran.

Bordenave reviews the five petroleum systems defined in the Zagros and proposes a scenario for oil and gas expulsion migration in a geodynamic and tectonic scenario that explains oil and gas field emplacement.

This volume is more than a sum of excellent articles, it shows that scientific research has to be done without any restrictions of economic interests. To reach the scientific goals, companies like BP, ENI, PETRONAS, SHELL and TOTAL worked – despite their own interests – successfully together. Congratulations to the successful team!

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