STRUCTURAL STYLE WEST OF THE ZAGHOUAN THRUST SYSTEM : CASE OF BIR M'CHERGA AREA (NORTH TUNISIA)

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Structural analysis, incorporating geological mapping and inventory of meso-scale deformation features allow us to highlight the major structural features and deformation style in Bir M' Cherga area west of Zaghouan thrust system.

In this field, the structural style corresponds to ramps and duplexes structures with main décollement levels situated within Triassic salts and Late Cretaceous shales.

The structural cross sections highlight the structural complications and show a high amount of tectonic imbrication with the development of tectonic units. The main structural patterns seem to be thrusting-back thrusting in an out of sequence configuration.

Two main compressional deformation pulses were recognised: the first one is Late Cretaceous-Late Eocene in age and the second is Late Miocene to Quaternary.

The first event is outlined and indicated by a set of observations including meso-scale deformation structures that were recognised in the shaly and limy formations of the Late Cretaceous-Eocene series. These meso-scale metric structures display inversional sealed structures evidenced by: angular unconformities, progressive onlaps, pull-down structures and ramp fold anticlines. The second compressional event is outlined by an important angular unconformity between the Plio-Quaternary continental series above Eocene shale levels with general gap of the Post-Eocene series including the Oligocene and the Miocene.

So, three important angular unconformities that outline the above cited events, compressional events, are recognised in the field:

-the first between Ypresian pelagic limestones on the limy Campanian bar with a hiatus of the Maastrichtian-Paleocene. In many localities in the area, the original sedimentary contact of this unconformity was later on reactivated as thrust fault plane.

-the second between Latest Eocene limy beds on the Maastrichtian shaly beds hiatus of the Paleocene and also expressed by progressive onlaps of the Late Eocene on the Maastrichtian .

- the third unconformity is observed between Quaternary and the late Eocene shales with an important hiatus affecting the Post-Eocene series: Oligocene and Miocene.

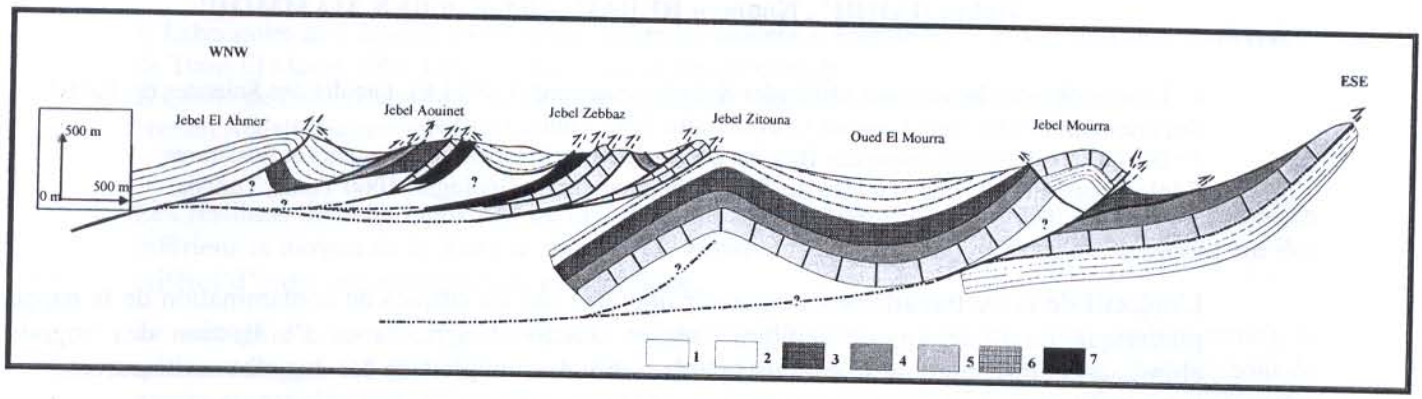

Figure: Structural cross section showing the main structural style and imbricated units
1: Oligocene, 2: Middle-Late Eocene, 3: Ypresian, 4: Paleocene, 5: Middle Campanian-Maastrichtian, 6: Santonian-Campanian, 7: Triassic