ORIGIN AND FRACTURE PATTERN OF EL BOLÓN “MINIBASIN”

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Abstract
In salt-bearing fold-and-thrust belts, salt is expelled as sheets during regional shortening. If these salt sheets have a carapace, it can be dismembered by radial spreading of the salt into different fragments that can move evolving in different ways (rafts or secondary minibasins) as the sheet advances. Using detailed geologic mapping combined with orthophotographs draped over digital terrain models, as well as fracture characterization, this master project evaluates the origin and evolution of El Bolón Mountain (Elda, eastern Prebetic Zone). This structure includes Senonian to Middle Miocene rocks surrounded by Upper Triassic (Keuper) evaporites. According to the collected data, El Bolón is an overturned secondary minibasin that evolved from a dismembered Senonian roof fragment above a salt sheet, into a secondary minibasin that had sunk into the allochthonous salt. With ongoing of regional shortening, halokinetic units were folded and rotated, overturning towards the NW. In addition, five fracture sets have been identified at both flanks of the minibasins. The development of these fractures helped in indicating that overturning was coeval or after Miocene deposition.

GEOLOGICAL MAP OF EL BOLÓN MINIBASIN