

9-8. - "REMARKS ON THE ORIGIN OF UPPER MIOCENE EVAPORITE FORMATION OF THE WESTERN MEDITERRANEAN BASIN"

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Abstract : The Upper Miocene evaporite formation of the western Mediterranean basin is characterized by: 1 - overdevelopment of Ca-Sulphate phase (gypsum, anhydrite), in combination with underdevelopment of the halite phase, and 2 - great thickness, exceeding 1500 m in some places. The above anomalies are impossible to explain neither in terms of the classic theory of seawater evaporation, nor by physiographic and/ or hydrographic factors (e.g., in terms of dynamic or morphologic barriers) actively disturbing normal cycle of evaporation. It is suggested that these anomalies result from mixing of highly concentrated formational brines, expelled from flysch series in the course of folding and uplifting of young orogens, with hypersaline, evaporite seawaters infilling the inter- and/ or intramontagne depressions and troughs. This process of mixing of brines of different origin and concentration may lead to precipitation of salts, such as gypsum and halite, without passing through the stage of saturation with any salt of any of the brines in question. The above mode of precipitation was recently confirmed by laboratory experiments of Raup (1972). The mechanism of mixing brines of different origin, concentration and chemical composition seems to offer acceptable explanation of some anomalies in lithological and chemical composition of Upper Miocene evaporite formation from the western Mediterranean basin, as well as of other ancient evaporite formations from other areas.