

## **STRATIGRAPHY AND ENVIRONMENTAL ANALYSIS OF A GYPSUM DEPOSIT IN SOURE DIAPIR (COIMBRA, PORTUGAL)**

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A diapir is an upfold which has been pierced or ruptured by the upward movement of a plastic core. In Portugal occur several diapirs, anticlines with nucleus constituted by Jurassic lithologies surrounded by sub-vertical faults. The main goal of this research is to analyze the stratigraphy of a gypsum deposit situated in the diapir of Soure, 20 km SW of Coimbra. The diapir is roughly rounded shape with 3-4 km diameter. Two thirds of the out-crops are constituted by the nucleus of the diapir, Margas de Dagorda Formation which, locally, is very rich in gypsum and halite. In the SE limit of the diapir is located a gypsum deposit, a cap rock of a more complex structure with a length of 1 km deep. Soure evaporitic basin was a graben basin, low deep, where were deposited evaporitic minerals by the end of Hetangian. We could identify different types of gypsum: crystal, nodular, acicular, granular, microgranular, detritic, sand-detritic and banded-nodular, reflecting different sedimentologic environments. Gypsum shows several impurities: organic material, iron oxide, pyrite, marcassite and manganese oxides as well as kerogene and hydrotroilite. Chevron and enterolitic structures could be identified as well as important faults and folds consequences of the uplift movement. With all the elements obtained by field and lab work (chemical and mineralogical analysis) a palaeosedimentary environments reconstitution is made.