



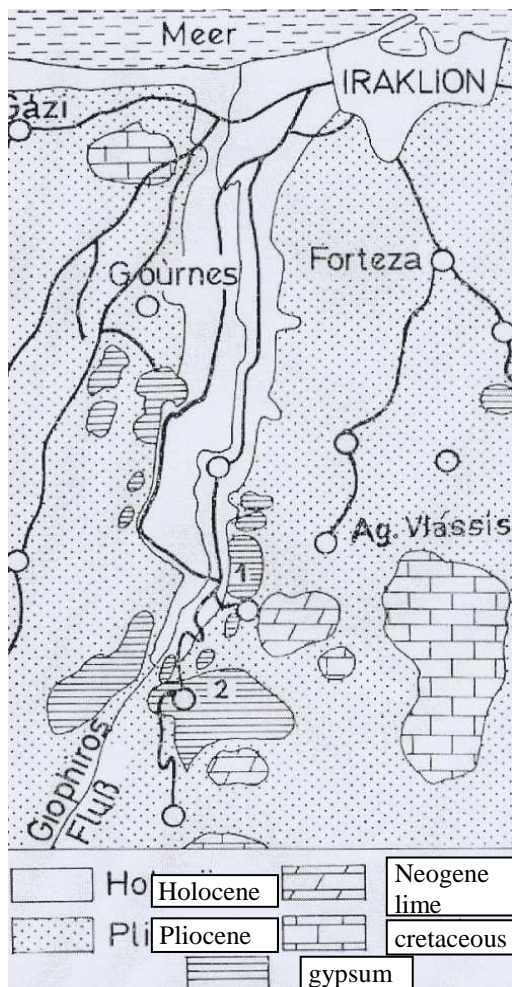
**Information about the Environment and for travellers in Crete:**

**About the gypsum deposits of Crete:  
 Gypsum (chalk) caves at Malades and Agios Silas**



It's been 40 years that a publication appeared to this topic, in which in particular about the „the gypsum cave Karagiorgaki on Crete“ (close to Iraklion) was reported.

It is to remark that much changed in the past 40 years (Infrastructure: e. g. house and road construction among other things more), by which the local conditions do not correspond anymore to that, which was documented in the past. Nevertheless, many things are still to be found today!



The oldest exposed rocks of Crete are flat limes, which are often crystalline formed. They are of Permian age (partially probably older). Tectonically heavily loaded they show folding despite large power. Besides that, phyllite series are common on the whole island. It contains many gypsum and anhydrite stores in the lying; therefore many authors place the gypsum stores on the basis of the phyllite. These probably developed in lagoons, as it can be concluded from the presence of the lime alga (*Mizzia veleitana*) in the lower phyllite. Thereby Anhydrite occurs in all gypsum layers of the Permian of Crete in different portions. Anhydrite is roughly crystalline contrary to the gypsum, which is small crystalline and sometimes granular. The gypsum contains also small quantities of dolomite and/or dolomitic limes. The quality of the Permian gypsum is very good and the middle gypsum content lies with 90%. Most deposits show prevailing gypsum in their upper layers, anhydrite is in the lower parts. This shows that the gypsum secondarily resulted from water absorption.

South of Iraklion (see map: Location of the caves south of Iraklion; 1= cave Spiliara, 2 = cave Karagiorgaki) appears on both sides of the river Giophiros (today only in parts recognizable by its reed population) quite a few concentrations of Pliocene gypsum. They are between the villages Malades and Agios Silas, in whose close vicinity the gypsum caves are (see in addition the following pictures on the continuation page: Gypsum caves in the region „Gypsades“, today smaller caves serves as dump

places for muck.).

A small gypsum deposit is also south of Knossos. The Pliocene gypsum beds here are in marl, there is no anhydrite. The gypsum is roughly crystalline formed; besides there are also sealed, alabaster like gypsum (the roughly crystalline gypsum became used e.g. in the Minoan palace of Knossos in form of tiling (see in addition at: [ [http://www.kreta-umweltforum.de/Merkblaetter\\_en/152-06E.pdf](http://www.kreta-umweltforum.de/Merkblaetter_en/152-06E.pdf) ]).





Mount Jouchtas (therefore see in addition our leaflet at: [ [http://www.kreta-umweltforum.de/Merkblaetter\\_en/093-05E.pdf](http://www.kreta-umweltforum.de/Merkblaetter_en/093-05E.pdf) ] and the hill Tsalikaki consists of chalk limes. Close to Agios Silas are small outcrops of Neogene limes, in which the gypsum layers are enclosed. Because of this area the gypsum is also called „Gypsades“. Here is also the cave „Karagiorgaki“, which is accessible by two openings (see pic.) (Coordinates: N 35° 25 6195; E 25° 10 9344). It is a goal of our next cave excursion, on which we will then report with a separate info leaflet.

