

and Mersini and, finally, the domes of Psathi, Xaplovuni and Mersini. After the extrusion of these domes the volcanic activity was exhausted in the area of Kimolos and Polyegos.

A NE-SW trending tectonic lineament, along which the volcanic centres of Milos island group were arranged, seems to continue to be active as the same tectonic trend was used as path for the hydrothermal fluids that deposited the Mn, Pb, Ba ores. The hot springs of Kimolos are also aligned in a NE-SW trending direction.

A geothermal field with a probable fluid temperature between 80 and 120°C is supposed to exist in Kimolos area while the existence of deeper reservoirs with higher temperatures is not excluded.

THE ATHENIAN ACROPOLIS KLIPPE: RELICS OF EARLY TERTIARY LARGE SCALE NAPPE EMPLACEMENTS

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The Acropolis hill of Athens is one of the most famous classical sites in Greece. It represents one of eight similar hills in the central part of Athens: Acropolis and the adjacent Paulus hill, Philopappou, Lycabatos, Katsipodi, Sicelia, Arditos, and Strefli. The tops of all these hills are made up of several tens of meters of thick-bedded Cenomanian limestones overlying the Athens schists, which are comprised of a 200 to 250 m thick flysch-type formation of Upper Cretaceous to Lower Tertiary age.

The Position of the Upper Cretaceous massive limestones on top of slaty rocks with a similar age has led to various tectonic interpretations. The authors favour the allochthonous "Klippenhypothesis" for the following reasons:

In the Piraeus hills (Karavas, Korydallos, Kaniaris), the contact zone is comprised of mesh-serpentinite as pseudomorphs after Iherzolite and harzburgite, opihalcite and talc-chlorite schists. These low-grade metamorphic ultramafics represent the ideal shear matrix between the limestones on top and the underlying flysch, and are often associated with iron-nickel ore bodies. These mineralizations are the result of hydrothermal leaching, fluid migration, and deposition within a major overthrust horizon.

The Acropolis limestone horst is fractured and block faulted by steeply inclined N-S, E-W, and NW-SE trending faults. Cataclastic deformation increases towards the base as expressed by the occurrence of classical Riedel-shear systems. The contact zone is comprised of several meters of strongly folded reddish and greyish cherts, fine-grained siliceous limestones and slates. An Upper Jurassic age for this formation is suggested by the occurrences of Radiolaria and Tintinidae. The slate-chert formation

changes its deformational character rapidly within a few tens of meters towards east and west. As the result of displacement and heterogeneity of strain gradients, the schistosity (s-structures) have become uneven and shear banding (c-cisaillement) appeared. In the east, close to the Dionysos theater, the same formation is developed as a monogenous "brecciated conglomerate".

Very complex folding, shearing and cataclastic phenomena can be observed within the flysch. Cataclastic deformation is certainly the most dominant feature in the more incompetent silty and sandy layers. Ductile deformation is weak in the slates. The occurrence of chlorite and crystallinity of illite/sericite transformation suggest temperatures around 200°C. An overburden of a 2 to 5 kilometer rock pile on top of the Acropolis klippes is quite feasible.

The time of emplacement of the Cenomanian limestones over the Pelagonian tectonic units is given by the minimum ages of the Athens schists. Overthrusting must have occurred during the Upper Eocene orogenic phase as result of continental collision.

NEW DATA ON THE GEOLOGY OF SOUTHERN ARGOLIS (PELOPONNESUS, GREECE)

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New geological data in the Southern Argolis indicates the existence of a continental crystalline massif, probably of Paleozoic to Upper Paleozoic age, consisted of quartz conglomerate.

This substratum overtakes V.A.G. type granodiorites and it is followed by andesites and dacites of the arc-type Permo (:) Triassic volcanism.

Unlike Northern and Central Argolis, where the above series are covered by Upper Triassic-Liassic limestones of "Pantokrator", the same series in Southern Argolis is covered by the ophiolite "Mélange" which is rich in boninites and basalts. This "mélange" seems to be a product of a Suprasubduction zone which has been overthrust on the previous Pelagonian crystalline massif, before the Upper Jurassic.

Following a relative intense period of uplifting and erosion of the above formations, the deposition of reeflimestones during Kimmeridgian-Portlandian period took place. In the roof of these limestones, their lateritic products are covered by nentic limestones of Barremian-Cenomanian age.

The sedimentation process continues with the Pelagic Upper Cretaceous limestones (Turonian-Maastrichtian) and further up it goes into the Paleogene-Eocene