karstric limestones, Neogene tuffs and Neogene lacustrine sediments. Mesozoic karstic limestones have been overlain by an unconformity of the Neogene tuffs and Neogene lacustrine sediments, which consist of conglomerate, sandstone, clay, marl and limestone intercalations.

Mesozoic karstric limestones are the aquifer of the hot springs. It is understood from the geochemical and isotopic data that the origin of the hot waters is see water. The sea water percolates through the fractures and karstic voids and is heated at depth and also through percolation brought up to the surface. These hot waters are mixed with different proportions of cool see water and cool fresh water as they travel to the surface. The proportions of cool see water in the hot (mixing) mixture waters could have varied from 36% to 79%. The proportions of fresh water in the hot and cold mixed waters could have ranged at least from 32% to 79%. The isotopic compositions of the hot waters are about similar to the modern sea water of Aegean see. The circulation velocities of them are very fast.

Results obtained from different chemical geothermometers are unreliable because of the sea water origins of them and mixing phenomena. Application of Fournier's silica enthalpy warm spring mixing model gave the temperature of the hot water in the reservoir before mixing as the variation about 85° C and 150° C.

VOLCANIC STRUCTURE AND EVOLUTION OF KIMOLOS AND POLYEGOS (MILOS ISLAND GROUP)

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Kimolos and Polyegos islands are almost totally built up of volcanic rocks, the most of which are pyroclastics. The deposits of two big explosive events, Kastro and Pressa ignimbrites-which cover the whole area of Milos island group, served as guide levels in the correlation with Milos volcanic activity. The result was a model on the evolution of the volcanic activity of Milos, Kimolos and Polyegos region.

The volcanic activity in Kimolos and Polyegos area (in comparison with the volcanic activity of Milos) was manifested during Upper Pliocene and Lower Pleistocene, ranging in age between 3,5 and 0,9 Ma. Two cycles of volcanic activity are distinguished: The first cycle, between 3,5 and 2,0 Ma, comprises the lower lavas of Kimolos, the Kastro ignimbrite and the andesitic-dacitic lavas of Kimolos. The second cycle, between 2,0 and 0,9 Ma, comprises the Prassa ignimbrite, the domes of Polyegos, the andesitic pyroclastics and the Geronikola lavas of Kimolos, the rhyolitic pyroclastics of Psathi

and Mersini and, finally, the domes of Psathi, Xaplovuni and Mersini. After the extrusion of these domes the volcanic ectivity 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^{0}C is supposed to exist in Kimolos area while the existence of deeper reservoirs with higher temperatures is not excluded.

THE ATHENIAN ACROPOLIS KLIPPES: 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, Lycabetos, Katsipodi, Sicelia, Arditos, and Strefi. 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 lherzolite and harzburgite, ophicalcite 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 tending 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

