



Information about the Environment and for travellers in Crete:

**The 3 road tunnels on Crete get company:
2 more are planned for the traffic Iraklion - Ierapetra**



There are currently 3 road tunnels on Crete which will be introduced with the following pictures. The probably oldest and single track tunnel (with traffic light) is located in the West of Crete, about 1 mile (in southern direction) behind the village Topolia. It is “only” 100 m long and its drive through appears somewhat adventurous; therefore see the following pictures.



The second oldest tunnel is the Vrachasi tunnel, short before Agios Nikolaos in North Crete. It is located on the route Malia – Agios Nikolaos, is 275 m long and already two-lane (see pictures)



The third (and newest) is also located in North Crete on the new road between Iraklion and Agios Nikolaos (above of Hersonisos). The Apormarma tunnel is 420 m long and leads through a maximum overburden of approx 80 m of marl and clay stone, as well as massive gypsum layers. It belongs already to the new building of the traffic facility of Iraklion in the north towards Ierapetra at the south coast, planned by the building administration of Crete (see pictures next page).



Pictures: NLUK U. Kluge (Mai 2006/2007)

In the course of the aforementioned new building of the traffic facility Iraklion - Ierapetra are (apart from a multiplicity of dams, cuts and canyon spanning bridges) also two further tunnels planned (with lengths of approx. 300 - 500 m). The tunnels "Saint Barbara" and "Plouti" come with overburdens of up to 45 m into lime and marl. A supplementing building ground investigation is currently carried out, which covers coring as well as field and lab tests

The working group ("Arge") WBI (consisting of the German company Professor. Dr. - Engineer W. Witte advisory engineers for foundation engineering and construction in rock GmbH, Aachen, with Greek partners) is responsible for this and active. On the basis of the building ground investigations as well as the currently available planning the "Arge" should examine the possibilities for the improvement of the lines and the traffic management. Beyond that the geotechnical conditions are to be evaluated as well as the engineering structures sketch. Questions from the range of the geotechnics as well as a draft of the two tunnels are worked on within the "Arge" by WBI.



Modern tunnel construction today begins with extensive investigations of the mountain, its geological and hydraulic geological structure and condition.

The philosophy of the modern tunnel construction consists of working a cavity into the mountain without the mountain notices it. So amusingly it may sound, a cavity must be borne. The mountain must train a carrying ring around the cavity, in order not to crush it. Power rearrangements must take place within the mountain which leads to the formation of a load-bearing vaulted with those the mountain can react to the new situation – the cavity. Here the geological and hydrologic knowledge specified above is for the setting up the mountain in demand and indispensable.

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[Art.-Nr. 2.556; Zitat-Nr. 4.418] impr. eik.amp 2014

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