

Isparta Province – Çobanisa Village – Kulovası (Mountain Davras Ski Center)
Hydrogeology and Geophysics Resistivity Works Results
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The objective of this work is to obtain the water, which Isparta Province Mountain Davras Ski Center (Karlıyayla Winter and Mountain Tourism and Nature Sports Center) needs, from the ground water. Having 1630 m average height, Kulovası, where Mountain Davras Ski Center first settlement construction plan has been applied, is a young tectonic plain with 3 km length and 750 m average width located between Mountain Bey Limestones and Kuyubaşı Dolomites and filled with Plioquaternary sediments. The domestic water need of the region has been set as constant 31 lt/sec once the facilities have been operated in full capacity. The water needed has been envisaged to pipe from Lake Eğirdir (from 916 m high) to ski center facilities water reservoir (to 1700 m high) through 3 stages pumping, and with the estimated cost of 4.5 trillion liras (4.5 million new Turkish liras) over 2001 unit prices.

The works, which were left incomplete in 2001 due to high investment cost, were brought into agenda again at the end of the year 2005 upon our proposal that the groundwater could be obtained from the region and upon the fact that the local authorities were in search of various solutions. Following the request of our new governor, the groundwater research works (as Hydrology and geophysics resistivity) were launched in August, 2006 in Kulovası, where ski center settlement area is located, in accordance with the agreement of total minimum 35 lt/sec groundwater supply guarantee. The research was concluded by the end of October.

Drilling works at the spots set by our office as well as pumping tests of the drills one by one first and then as a whole were conducted concordantly with the research works upon the tender of the governorship to our office. The data obtained from collective tests was registered in minutes. The aggregate groundwater productivity obtained from 4 drilling holes in the basin (you may find the details in the report) is $18 + 16.5 + 10.5 + 6 = 51$ lt/sec.

As a result of the research works in the region, it has been found that plioquaternary sediments have reached the thickness of 120 or more in the tectonic plain within the jura-cretaceous limestones. It has also been detected that rich rag stone and gravel sediments have formed an abundant groundwater reservoir (aquifer) and that their specific discharges have hit 2.00 lt/sec/m. The available groundwater reserve in guarantee has been measured as 2.500.000 through feeding, discharge and aquifer geometry calculations.

The investment cost of the project has been reduced from 4.5 million TL to 225.000 TL thanks to our productive engineering methods while investment value, maintenance and operating costs as well as the water cost have been reduced almost 20 times.