



Groundwater Monitoring for an open-cast lignite mine in Elbistan, Turkey



View into the open cast mining area with the two power plants Cöllolar A and B.

The Cöllolar open-cast lignite mine is located in the Afsin-Elbistan basin, northwest of the city of Elbistan. The development of the Cöllolar field started in 2007, adjacent to pre-existing open-cast lignite mines. In general, the Elbistan-Afsin basin holds over 3 billion tons of lignite which is Turkey's largest lignite resource.

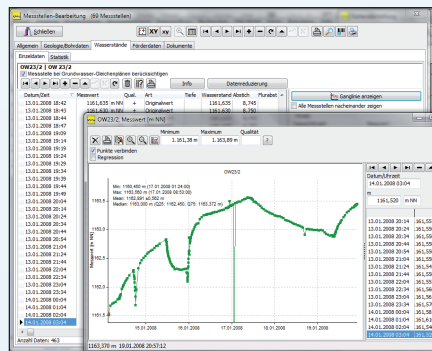
To monitor the drainage concept and the subsequent requirements for the stability of the pit slope, ribeka was commissioned to implement a groundwater monitoring system to store and evaluate the data deriving from the groundwater monitoring stations and groundwater discharge wells around the Cöllolar field.

The mine operator is using discharge pumps with a specific pump performance and corresponding operating hour meters to calculate the actual discharge. Ribeka introduced the Water monitoring and management system GW-Base as well GW-Mobil, the GW-Base Module for handheld PCs for field data acquisition. In both applications, specific extensions were developed, to enable the system to automatically calculate the discharge amounts out of pump performance and operating hours and simultaneously perform appropriate data quality and plausibility checks.

In addition to the water management the bore log plotting module GW-Bore was installed. As a result, the complete water and hydrogeology management, consisting of water quantity and quality, logger data and geological data can be managed, evaluated and reported with the implemented system.



Field trip to the discharge wells



Water level and discharge management in GW-Base



GW-Base, GW-Bore and GW-Mobil software training

