

## S 10 MÜHLVIERTLER MOTORWAY, SECTION UNTERWEITERSDORF - FREISTADT NORTH; PRESERVATION OF EVIDENCE IN THE FIELD OF WATER MANAGEMENT

Client: ASFINAG Construction Management GmbH (Motorway Financing GmbH)  
Development Period: 12/2007 to 5/2011

### THE PROJECT

The S 10 is one of the most prominent road construction projects in the federal state of Upper Austria. It will improve the traffic infrastructure of the Mühlviertel significantly and will contribute to the strengthening of the business location of Freistadt and the surroundings of Urfahr. At the same time, the S 10 also holds inter-regional relevance as access route to the European corridor (Prague - Brno - Vienna).

The objective section with a length of 22 km runs through the topographically demanding terrain of the Mühlviertel. This necessitates four tunnels established in mining technique (total length 7.4 km), four tunnels in cut-and cover technique (total length 1.9 km) as well as numerous bridge structures. In this sparsely populated territory, the water supply is often provided by domestic wells or tapping of springs. Frequently, the water is taken out of the weathered zone of the crystalline or of the joint system thereof.

### OUR FUNCTION

BGG Consult has been commissioned with the implementation of the preservation of evidence in the field of water management during the construction phase.

This included a monthly survey of the hydrological parameters of 300 wells, 60 springs, 45 streaming water and 25 surface water measuring points, as well as 80 ground water gauges. Additionally, the water was sampled at all the locations and analysed for the relevant chemical and partly bacteriological parameters once in three months by the partner of the consortium ESW Consulting WRUSS.

The data was stored and processed in a database. Monthly, quarterly and yearly reports in form of tables and diagrams were compiled.

#### *Logistic Challenge:*

Requirement for the measurements was a complete monitoring round within 36 hours. This made the simultaneous assignment of 10 qualified personnel on site necessary. In the light of the extensive amount and variety of data, substantial tasks were the quality control, the data management and the reporting. For example, one quarterly report consisted of over 6000 pages.



*Flow measuring weir with  
automatic data collector*