

## KORALM GRAZ - KLAGENFURT RAILWAY LINE, DEEP BOREHOLES

Client: ÖBB-Infrastruktur Bau AG (Austrian Railways Infrastructure Construction AG)

Development Period: 2000 to 2005

### THE PROJECT

A 124 km long new high performance railway line (the Koralm Railway Line) will soon connect the cities Graz and Klagenfurt.

The core piece of this track is the 32.8 km long Koralm Tunnel. The double-tube tunnel cuts through polymetamorphic crystalline rock of the Koralpe with an overburden of up to 1,200 m. Towards the tunnel entrances, tertiary sediments of different grain sizes and rock with minor strength exist, while the overburden is 150 m at maximum. The extensive underground explorations include seven deep boreholes with final depths between 486 m and 1194 m.

### OUR FUNCTION

Beside the hydrogeological and geotechnical project work, BGG Consult managed all three exploration campaigns for the deep boreholes.

In close cooperation with all parties involved in the project and taking into consideration the ownership structure and accessibility, the locations and the necessary drilling depths were determined.

Based on these, drilling methods, built-in components as well as geophysical and hydraulic testing programmes were worked out. Subsequently, BGG Consult prepared the tender, evaluated the offers and supervised the execution of the drillings and tests in technical and commercial regard.

#### *Deep Borehole TB-D01-05:*

The borehole TB-D01-05 with a depth of 1194 m is situated in the area with the highest overburden and is sunk by means of a wire core line barrel with a diameter of 146 mm and direct washing. The following measurements and tests were executed:

- Borehole deviation measurements
- Gamma measurements
- Gamma gamma density measurements
- Acoustic and optical borehole scan
- Temperature / conductivity logging
- Tracer fluid logging
- Flowmeter tests
- Hydraulic borehole tests
- Hydraulic fracturing tests
- Vertical seismic profiling

*Deep Borehole  
TB-D01-05*

