

Closure of ventilation borehole under unstable geotechnical conditions in the uranium ore deposit Koenigstein

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Project Objective: Preparation of permitting documents and final design for the stable closure of the ventilation borehole 1 (depth 222,5 m) by complete refilling with cohesive filling material over the entire depth to ensure long-term public safety of the surface in the surrounding of the former shaft.

Key aspect

Secured hydraulic separation of the 3rd aquifer from the extreme concrete-corrosive (acidic) flooding medium

Location: Saxony

Client: WISMUT GmbH

Beneficiary: WISMUT GmbH
Branch Office Koenigstein

Year: 2003 - 2006

Budget: approx. 27.000 Euro/shaft (design, supervision /documentation)

Initial Situation: After the cassation of mining activities and in preparation for the flooding of the mine, conceptual and planned inputs to the technical possibilities of a long-standing shaft closure, taking into account the overall building condition is required.

Detailed clarification was needed for the material composition of cohesive refilling material under flooding conditions of the deposit (position- and sulphate-resistant, hydraulically hardening, cement-bound matrix, in the stability and deformation behaviour has to be comparable with concrete). Further definitions to the type of implementation were to be met – here via a free-hanging piping. A Cost – Benefit – Analysis was done.

Services Provided:

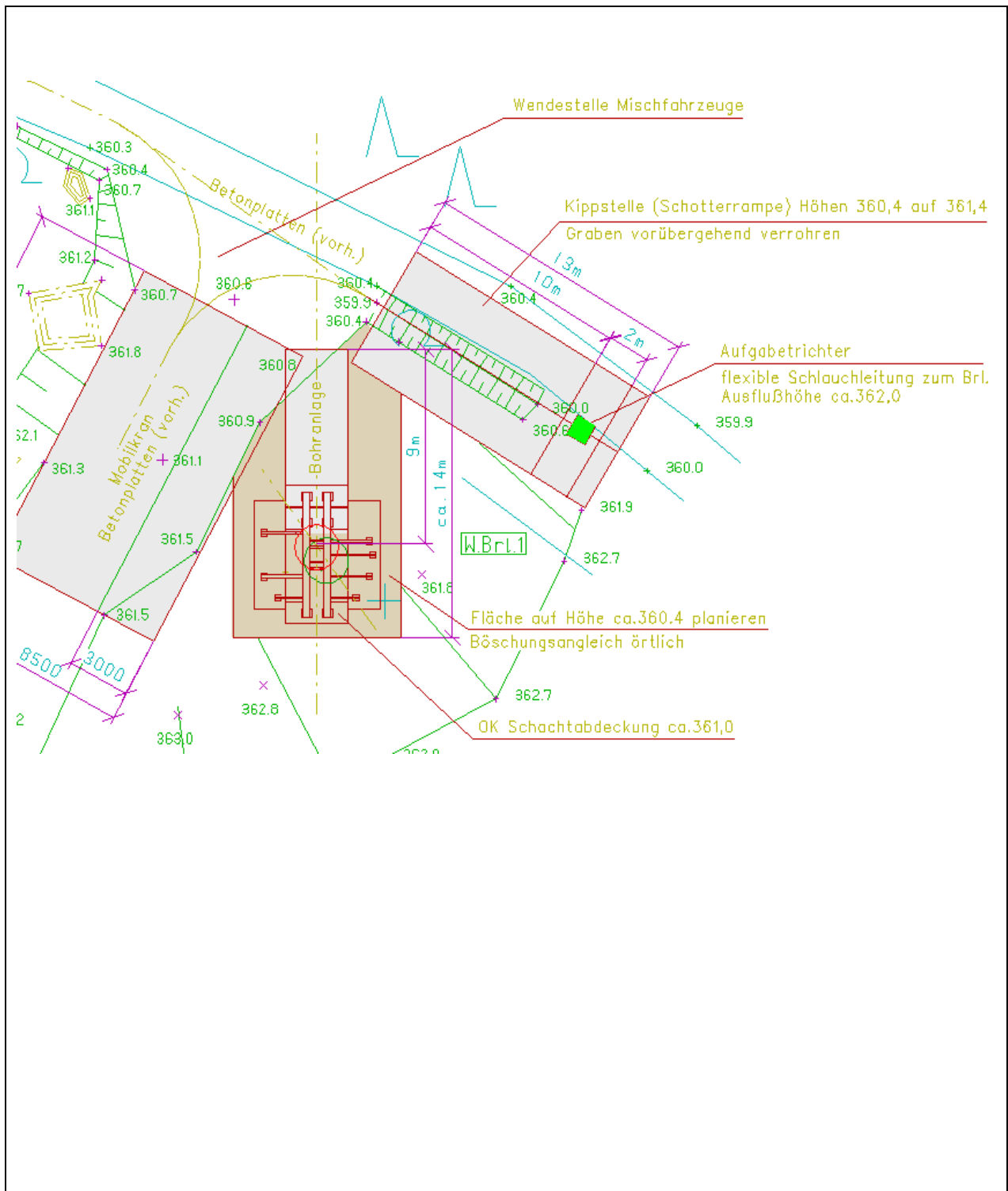
- Elaboration of the technical solution beginning with the **conceptual design** with decision for type of construction up to **detailed design**, including elaboration of all necessary calculations and engineering works for the mining-, civil engineering- and road construction sector
- **Supervision** and **technical assistance** during the construction works and
- Preparation of final **documentation of the project**

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