

Prognosis of the flooding course and of the inflow and cavity conditions in the mines of Ronneburg / Thuringia

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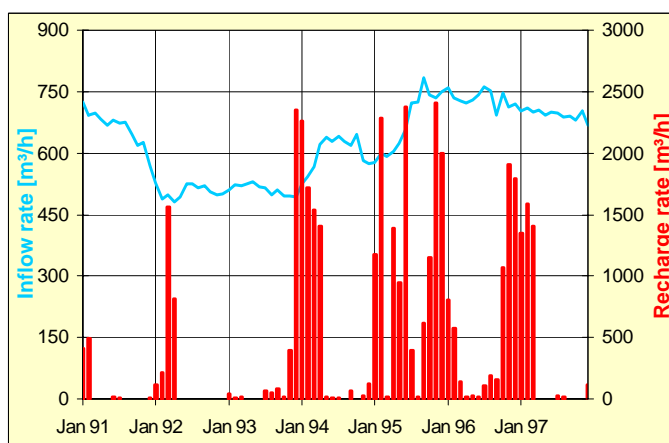


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Project target: Determination of the cavity structure and its volume that can be flooded; determination of the inflow conditions and prognosis of the expected flooding course.

Location: Ronneburg
Client: Wismut GmbH
Beneficiary: Wismut GmbH
Time period: 1996 – 2000
Budget: 220,000 EURO

Initial situation:



Border inflows and infiltration quantities vs. time

The Ronneburg mines consisting of a depression cone of ca. 70 km² and an open cavity volume of approximately 50 mil. m³ need to be flooded during the remediation. The planning of the inventory of water outflows and water treatment requires a prognosis of the flooding course.



Former uranium open pit mine Lichtenberg

Main tasks:

- Determination of the cavity volumes and of the alimentation conditions in three-dimensional distribution.
- Development of a numerical box-model for the simulation of the rising water table.
- Calculation of the border influxes and infiltration quantities.
- Prediction of the mine specific flushing distribution.
- Identification of technical measures for the flooding control.