First experiences with the down-the-hole (DTH) drilling method for large depths
I. Project description
II. Drilling methods
III. Operating Experience
IV. Percussion drilling – Innovation in the deep drilling sector and gained experience
II. Project description

How such an innovative project is being awarded today and what partners are needed?
HAS Innova Rig at the well site in Helsinki
Drilling Contractor’s Services

1. Project Management
2. Drilling
3. Project Coordination
4. Coring Service
5. Testing Service

Anger will be your partner for different tasks
Drilling Rigs for Deep Wells

HAS Innova Rig

- Small Footprint
- Reduction of emission
- Quick change of drilling methods

The rig’s high level of automation (“Hands-off technology”) allows for great adaptability and therefore ensures compliance with the highest safety standards.
H. Anger‘s Söhne agile management

- Continuous reconfiguration of processes
- Intensive use of new technology
- Customer collaboration
- Open for changes
- High stakeholder involvement
- High communication instead of using standard procedures
III. Drilling methods

Hard Rock Drilling
Drilling Methods

Percussion Drilling
Drilling Methods

Percussion Drilling

• ROP

• Compressors, Booster, Air needed
  • Diesel Consumption

• Air and Fluid Percussion

• Hole Cleaning
Drilling Methods

Dokumentation (Seismik, Emission)
Gained experience, challenges as well as performance compared to conventional technologies
Operating Experience

Air Hammer

H. Anger's Söhne – Bohr- und Brunnenbaugesellschaft mbH – since 1863
Operating Experience

Air Hammer
V. Percussion drilling – Innovation in the deep drilling sector

The percussion drilling technique as a chance to demonstrate the possibility of innovations in the deep drilling sector
Innovation in the deep drilling sector

- State of technology
- Advantages and disadvantages of the hammer
- Chances and perspectives
- Preferred areas of application
- Development potential
- Acceptance