gds geo drilling solutions ab

Project Case Sweden, 2014-16 – Boliden-Garpenberg mine

Project scope

- Drilling for service and media holes downwards in 0-30°, or, 0-45° to the vertical;
  - Reaming in several steps from Ø76 mm (3'') to 324 mm (12 ¾''): Ø76 / 165 / 224 / 273 / 324 mm (3 / 6.5 / 9 / 10 ¾ / 12 ¾'')
- Number of holes: ~10 holes
- Depth: Up to 240 m (787 ft.)
- Scope of drilling/total meters: 2 400 m (7 900 ft.)
- Why water-propelled drilling and reamer bit?
  - Due to high requirements on working environment below surface and safety issues when drilling with air (fire hazard with compressor) water-propelled drilling technology was chosen.
  - The reamer bit solution from Drill King was chosen due to very short delivery time, high quality and possibility to customize reamer bit design.

Equipment & geology

- Hammer model/sizes: WAI 50i as well as 2'' and 6'' hammers
- Drill bit/Casing system: DrillKing reamer bits at customer's request, with buttons made of tungsten carbide alt. diamond coated; usage depending on formation.
- Pump: Kamat K1300-3G electric pump with frequency converter drive. Pump rental via GDS; 420 lit/min @ 160 bar. Thanks to the frequency converter drive it was possible to adjust max pump output to the available grid power supply of only 120 A.
- Water source: Mine water
- Drill rig from NEMEK
- Geologic formation: Complex geology of various characteristics due to mining operations of gold, silver, zink, lead and copper

Reamer bit from DrillKing

Main stakeholders

- Commissioner: The Boliden-Garpenberg mine
- Main contractor: Züblin

Project '& drilling results

The holes were possible to produce, keeping the given time plan, even though severe geological conditions.