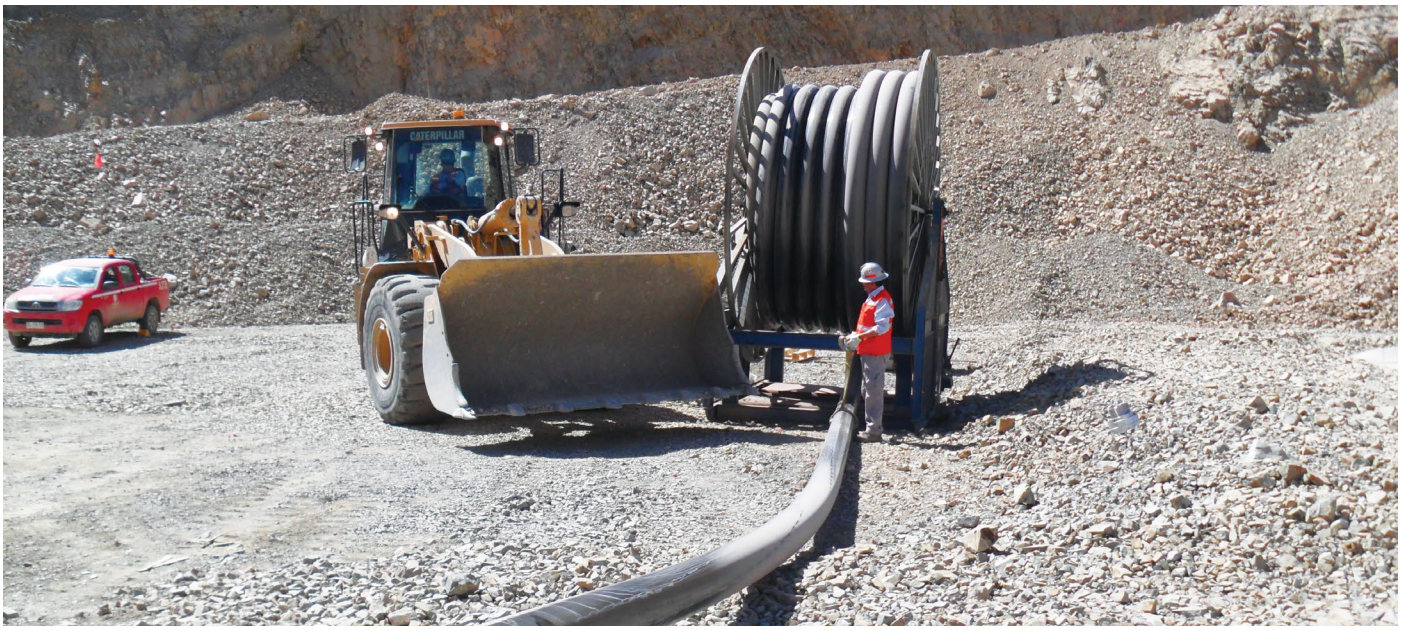
Mine Dewatering - High Pressure Conditions

Case Study | No.6



High pressure underground mine dewatering

Antofagasta Minerals, Michilla Mine

Chile | 2011

Working conditions:

High pressure (over 24 bar)

Pipes used:

Pexgol 160x27, Class 30

Application:

Dewatering

Length:

700 meters

The Challenge

Antofagasta Minerals faced constant water accumulation at the bottom of the mine, it was interfering with the extraction of the minerals. In addition, the mine operators faced:

- High pressure (more than 24 bars) – resulting from the vertical height differences, which required a pipe that could withstand the pressure and be easily installed.
- Pipe clogging in HDPE pipes – caused by scale formation on the pipe walls due to the presence of various salts, such as chlorides and sulfates, in varying concentrations in the water.
- Long installation time – and the need to reduce it by installing a flexible, long pipeline with less connections.

The Solution

The installation of a Pexgol's flexible pipe, which was produced and transported in coils, reducing both installation time as well as the number of joints. Since installation in early 2011, it has been working with no sign of clogging.
The client is fully satisfied with the pipe's robust performance, including its quick, easy installation and ability to withstand pressures of higher than 24 bars. Since Pexgol's pipes require less maintenance than PE pipes and eliminate previous frequent failures, it will be used for many additional applications at the mine.

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PEXGOL X-LINKED PIPING SOLUTIONS

High pressure underground mine dewatering

Advantages

- **High resistance to wear:**
  Pexgol is the preferred solution for abrasive materials transportation. Typically resists three times more than HDPE and twice more than steel.
- **Excellent chemical and corrosion resistance:**
  Pexgol pipes can resist a wide range of chemical agents, slurries, toxic and radioactive materials.
- **High temperature resistance:**
  Working temperatures can range from -50°C/-58°F up to 110°C/230°F.
- **Superb internal and external corrosion resistance:**
  Our pipes are proven to withstand decades of exposure to corrosive environments, with non-stop performance in some of the world's harshest environments.
- **Low weight:**
  Compared to steel or rubber, Pexgol's solution results in reduced transportation, storage and labor costs due to lower weight per meter.
- **Long pipe sections:**
  Pexgol's pipes can be supplied in long lengths coils, reducing number of joints, installation time and risk.
- **Creep and impact resistance:**
  Pexgol's crosslinking piping solution can withstand high amounts of axial and radial stresses and are highly resistant to impact, fracture and fatigue.
  Our pipes are also completely resistant to cracks – even when dragged over sharp rocky terrain and coagulated salt crystals.

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