



Installation of a drainage system in an open pit mine.

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**BHP Pampa Norte -
Cerro Colorado Mine**
Chile | 2020
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Working Conditions:

Extreme temperatures 10°
to 35°C / 50°F to 95°F

Pexgol Pipes:

Pexgol 200 mm (8"), class 21

Application:

Dewatering

Length:

450 m

The Challenge

BHP at Cerro Colorado Mine required to implement a dewatering system from the bottom of the mine.

For this type of applications, a meticulous engineering study was carried out, considering the terrain plus constructive and operational aspects. In detail, some of these aspects are: the complexities of the terrain, the dimensions and distances of the trace, high fluid conduction pressures, extreme environmental temperatures, demands on mechanical resistance due to pipeline drag, possible material collapses, minimize connections, minimize assembly times and mine availability for operation.

Pexgol Solution

After consulting with the local team (Crosspipe Systems), the client decided to install 450 meters of Pexgol 200 mm class 21 pipe. Crosspipe provided contributions in the calculation and design of the trace, using the engineering background provided by the client, as well as on-site consultancies. In addition to the above, the advantageous characteristics presented by Pexgol pipes in this application were:



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- Delivery of sections in long lengths.
- Coil supply format, simple uncoiling activity.
- Mechanical resistance to subcritical crack growth. Resists drag in mining terrain and landslides.
- Minimize connections (only 2 connections were made).
- Able to resist high internal fluid pressures. Maximum internal pressure to date is 52 bar.
- Resistance to extreme temperatures -50°C to 110°C.
- Internal roughness of 0.0006mm (60% less than conventional HDPE) contributes to energy savings due to lower pressure drops.
- Radius of curvature 5 times less than conventional HDPE, avoids the use of elbow connectors and accessories.
- Manufacturing and local technical support, with immediate response times.

Also, the installation was quick and without special equipment or tools.



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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 nonstop performance in some of the world's harshest environments.
- **Long pipe sections:**
Pexgol pipes can be supplied in long coil lengths, reducing number of joints, installation time and risks.
- **Creep and impact resistance:**
Crosslinked Pexgol pipes can withstand high amounts of axial and radial stresses and are highly resistant to impact, fracture and fatigue. Furthermore, Pexgol pipes are completely resistant to cracks even when dragged over sharp rocky terrain and coagulated salt crystals.

