



Transportation of river water in rough terrain.

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**Southern Copper Corporation**  
Peru | 2019  
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**Working Conditions:**  
Initial pumping pressure: 54 bar / 783 psi  
Average Temperature: 20°C / 68°F

**Pexgol Pipes:**  
Pexgol 315 mm (12"), Class 54  
Pexgol 225 mm (8") Class 30  
Pexgol 200 mm (8") Class 26  
Pexgol 200 mm (8") Class 15

**Application:**  
Water transport

**Length:**  
1034 m

## The Challenge

At the Cuajone mine (Southern Copper) they needed to install a new line at a height difference of 400 meters that presented an important construction challenge. This line had to transport pumped river water to a tank.

The line had to cross two slopes and an abrupt terrain of great complexity with the presence of large rocks, without access roads and adverse climatic conditions to carry out any work.

The design pressure in the area of highest pressure was 54 bar.



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## Pexgol Solution

Our technical team after studying the project and visiting the field, decided to use a special pipe in class 54 for the area of higher pressure and for the remaining sections classes 30, 26, 21, 15 respectively.

All the pipe sections were delivered in a long-length coil format, which allowed designing an installation plan with greater productivity compared to other material alternatives such as carbon steel.

The solution also included the design of special connections considering that during the pick-up, the couplings would impact with all kinds of obstacles (rocks, bushes, cactus, etc). The sections were gradually jointed on the upper platform and then drag and drop hundreds of meters. The complete installation of the line (including the welds and mechanical joints) took approximately a quarter of the time it would have taken to have done it in carbon steel, allowing significant savings in manpower and machine hours.

Cutting tools and other tools were used for welding by electrofusion and other conventional accesories were used for the tightening of the special couplers. A total of 14 unions were executed.



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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.

