Case Study #167

Pexgol Enhances Lithium Brine Well Testing Manifolds

Corrosion-resistant, lightweight piping for challenging mining environment.

Gaana Servicios Mineros

Argentina | 2024

- **Working Conditions**

  Temperature: 10°C / 50°F
  Flow Rate: 250 m³/hour
  Pressure: 2 bar
  Fluid Components: Lithium brine

- **Pexgol Pipe**

  Pexgol 110 mm & 160 mm, class 10

- **Application**

  Manifold for lithium brine well testing

- **Length**

  6 m / 19 ft

The Challenge

Gaana Servicios Mineros, a leading company in Argentina, faced a significant challenge in managing its manifolds used for lithium brine well testing. These manifolds, consisting of pipe assemblies, valves, and sensors located at the wellhead, are crucial for directing flow to control ponds and determining the well's potential and other critical characteristics.

Traditionally, the manifolds were constructed from carbon steel, a material that, while robust, posed several drawbacks. Carbon steel suffered from corrosion and scaling due to constant contact with lithium brine. Additionally, its heavy weight complicated the transport and assembly of the manifolds, especially in cases where tests lasted only a few days, requiring frequent relocation between different wells. This necessitated the use of a crane truck and additional logistics, increasing operational costs.

The Solution

To overcome these challenges, Gaana Servicios Mineros chose to replace the carbon steel manifolds with 110 mm and 160 mm, class 10 Pexgol pipes. Pexgol stood out as the ideal solution due to its high resistance to chemicals and corrosion, lightweight and easy handling, and long service life.

The installation of the new Pexgol manifold was notably fast and efficient, completed in under 2 hours. The process involved assembling the three main parts of the manifold along with accessories such as flow meters, pressure gauges, and valves, using GP flanged joints and straight PEX pipe sections, along with Stub Ends and loose flanges.

The use of Pexgol pipes in Gaana Servicios Mineros' manifolds not only eliminated issues of corrosion and scaling but also significantly reduced weight and costs. Compared to a stainless-steel manifold, the company achieved a 39% cost reduction and a 46% weight reduction for the 110 mm pipes. These improvements not only facilitated easier transport and installation but also optimized the company's overall operational efficiency.

Pexgol

The Advantages of Pexgol Pipe Systems

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
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.

For more information please visit:
pexgol.com