Case Study #192

Critical Pipeline Replacement in Dehydration Plant with Operational Continuity

Record-time intervention that avoided operational losses in a dehydration plant.

Petróleos Sudamericanos

Argentina | 2025

- **Working Conditions**

  Temperature: 20°C / 68°F
  Pressure: 3 kg/cm²
  Fluid components: Water with hydrocarbon content (>2% HC)

- **Pexgol Pipe**

  Pexgol 250 mm, Class 15

- **Application**

  Water transport to dehydration plant (injection for secondary recovery)

- **Length**

  10 m / 3.28 ft

The Challenge

Petróleos Sudamericanos is an Argentine company dedicated to the exploration and production of hydrocarbons, operating key assets in the Catriel Oeste region.
In this project, the dehydration plant plays a critical role: treated water is used for injection in secondary recovery processes, while oil is conditioned for delivery to refineries.

The operation required the continuous transport of a fluid composed mostly of water (98%) with the presence of hydrocarbons (>2%), creating highly aggressive conditions for pipeline materials.
The existing GRP pipeline suffered recurrent failures due to constant corrosion, forcing shutdowns of both the plant and the oilfield for repairs. These stoppages resulted in significant production losses, increased operational costs, and disruptions across the entire transport and dispatch chain.
Additionally, since this was a critical line within the process, any intervention involved high operational and economic risk, as downtime needed to be minimized.

The Solution

To definitively solve the problem, a solution using 250 mm (Class 15) Pexgol pipes was implemented, designed to operate at a pressure of 3 kg/cm² and a temperature of 20°C, with excellent performance in fluids containing hydrocarbons.

The pipeline replacement was executed as a critical operation completed in just two working days. Thanks to the material's flexibility, availability in long lengths, and ease of installation using electrofusion fittings, intervention time was significantly reduced.

As a result, the oilfield was shut down for only 8 hours, avoiding production losses, idle equipment and labor costs, and the need to reschedule field operations.

The chemical resistance of PE-Xa to hydrocarbons and its immunity to corrosion eliminated the root cause of the problem, ensuring reliable long-term operation. Additionally, the material's light weight and fast installation enabled efficient execution even in a sensitive operational environment.

This solution not only resolved the immediate issue but also optimized system operational continuity, reducing risks and costs associated with future interventions.

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