Case Study #191

Replacement of Corroded Pipeline in Oil & Gas: Pexgol Solution in Argentina

Efficient solution for transporting produced water with hydrocarbons under demanding conditions.

Petróleos Sudamericanos

Argentina | 2025

- **Working Conditions**

  Temperature: 40°C / 104°F
  Pressure: 10 kg/cm²
  Fluid components: Water and hydrocarbons

- **Pexgol Pipe**

  Pexgol 160 mm, class 15

- **Application**

  Formation water transport

- **Length**

  1140 m / 3740 ft

The Challenge

Petróleos Sudamericanos, an Argentine company focused on hydrocarbon exploration and production, faced an operational challenge at the Catriel Oeste field related to the transport of produced water containing hydrocarbons.

The existing infrastructure showed critical deterioration due to accelerated internal corrosion caused by the chemical nature of the fluid. This condition led to recurring failures in the pipeline, requiring welding repairs every six months. As a result, unplanned shutdowns occurred along with a continuous increase in maintenance costs, compromising the operational continuity of the system.

The project required transporting water with hydrocarbons at a temperature of 40°C and a pressure of 10 kg/cm² over a 1,140-meter pipeline using 160 mm (Class 15) pipe, under typical Oil & Gas operating conditions where system reliability is critical.

The Solution

To address this issue, a Pexgol (PE-Xa) piping system was implemented, selected for its high chemical resistance and its ability to operate reliably in aggressive environments. The solution eliminated the primary failure mechanism associated with corrosion, significantly extending the system's service life and reducing the need for corrective maintenance.

The material's flexibility and supply in long continuous lengths enabled a fast and efficient installation, minimizing the number of joints and potential failure points. The project execution was completed in just two working days, including pipe laying, installation of four mechanical couplings at critical points, and hydrostatic testing to ensure system integrity.

As a result, the operation achieved higher reliability, reduced operational costs, and eliminated unplanned shutdowns, positioning Pexgol as an efficient and long-term solution for fluid transport applications in the Oil & Gas industry.

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