Process plant: transport of leached slurry

Case Study | N°62

Replacement of titanium pipes by Pexgol pipes to transport acid solution.

Barrick Gold - Pueblo Viejo
Dominican Republic | 2018

Working Conditions:

Acid solution at 100°C.
Chemical Composition:
SiO2 64%; Al203 11.25%; As 0.05%; Ca 0.17%; Cr 0.01%; Cu 0.03%; Fe 5.37%; K 0.04%; Mg 0.02%; Na 0.08%; Pb 0.04%; Zn 0.17%

Pexgol pipe:

Pexgol 63 mm (2"), Class 15

Application:

Slurry transportation

Length:

2 m / 6.5 ft flanged sections
45° & 90° prefabricated elbows
100 m / 328 ft coils

The Challenge

Barrick Gold at the Pueblo Viejo mine was transporting slurry (acid solution) through titanium pipes GR2, SCH80S 2 for the drainage of the autoclaves, using this material due to the combination of low pH and abrasion in the fluid.
When using titanium, the tubes and elbows needed to be replaced on average between 3 and 6 months due to wear.

Pexgol Solution

The team of Pexgol together with the engineers of the Process Plant decided to carry out a test to replace a 2 meter (6.5 ft) section of their titanium pipe.
The first Pexgol pipe was installed at the end of the year 2017. This pipe section is still in operation, surpassing on a large scale the service life with the pipeline used previously.
Given the success of the test, almoust the rest of the line has been replaced, including 45° and 90° prefabricated elbows, thus avoiding plant

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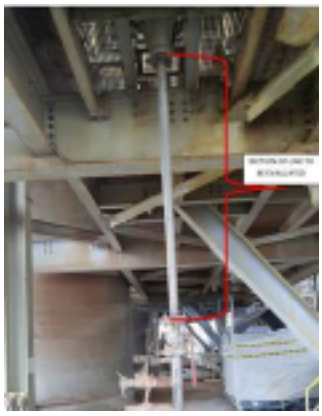
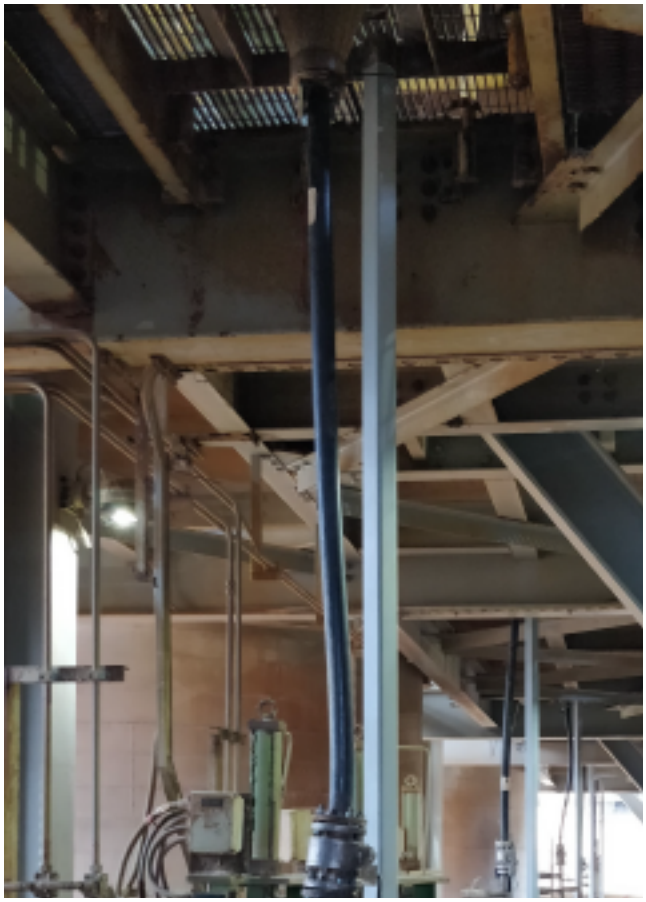
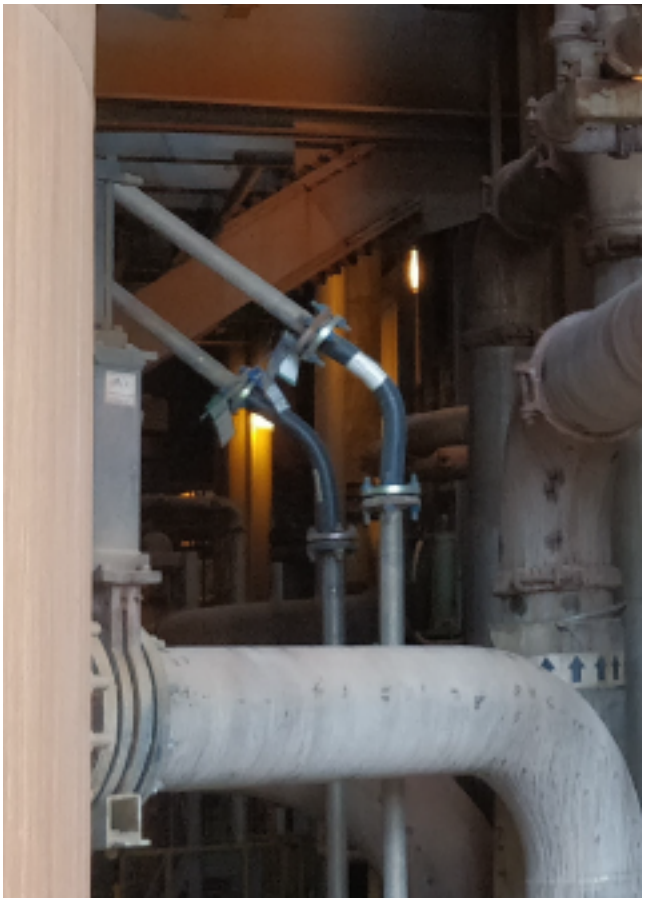


Replaced section

stoppages and unnecessary losses.
Due to the difference in temperature at the time of installation and the operating conditions, part of the installed tubes suffered the "snake" effect. Due to aesthetic and operational issues, this problem was solved by installing additional support, leaving the tubes straight and firm.
Pexgol pipes resistance to temperature and abrasion combined with the smooth internal surface made the installation a success.





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PEXGOL X-LINKED PIPING SOLUTIONS

Replacement of titanium pipes by Pexgol pipes to transport acid solution.

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.