



Cement slurry injection to an underground mine

Aguilar Mine Argentina | 2015

Working conditions:

Fluids: Cement 450.2 g; Water 500 ml;
Volume 670 cm³; Density 1.4 t/m³
Pressure: Temporary pressures up to
33 k/cm² Height difference: 300 meters

Pipes used:

Pexgol 110 mm (4") Class 24 (SDR 7.4)

Application:

Backfill

Length:

1,400 meters

The Challenge

The client, in order to continue the construction of the mine, required to backfill new tunnels. The cement plant was located on the mine surface, as a consequence they required a flexible pipe that could go through the robbins, which were not installed in a straight line.

In addition, they needed a pipe with high resistance to abrasion, since they needed to transport cement in a free fall that as a result turns to be very abrasive.

The Solution

Due to this special circumstances, the client requested Pexgol pipes since they can be provided in 600 meters sections, they are flexible and highly resistant to abrasion and impacts.

The pipe sections were uncoiled hundreds of meters from the installation place, later they were descended with a hydraulic crane. The end of the pipe was connected with a conical weight used as a guide to help it descend trough the robbins.

The ground was very harsh with sharp rocks, however the pipes were dragged, pulled and descended without problems.

The pipes were practically hanging from the surface of each level on the mine, supported by electro-fusion couplers. Despite the complicated conditions, the installation took only 60 net hours of work.





Pipes descending in to the mine



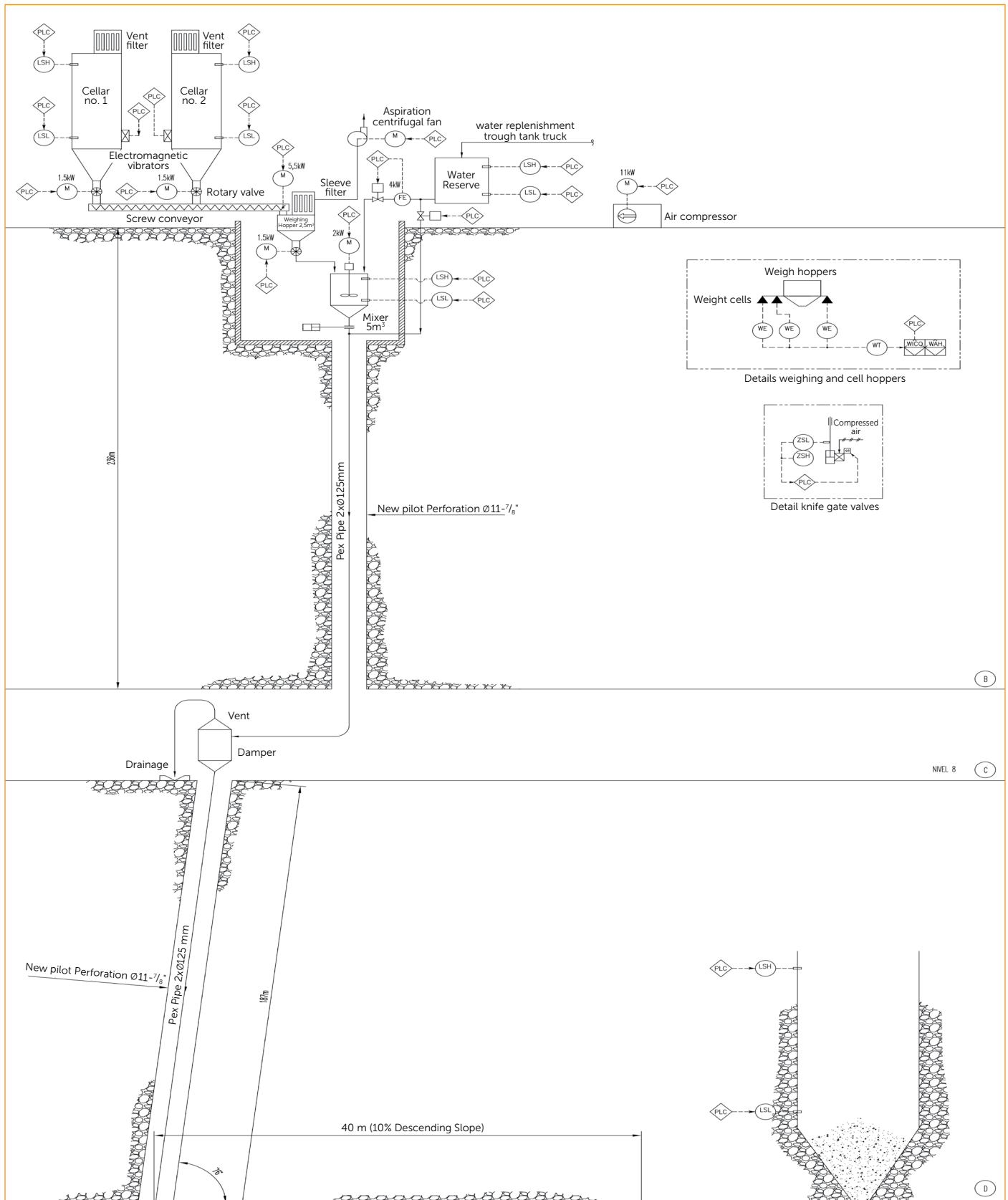
Uncoiling process



Pipes supported by quadripartite clamps

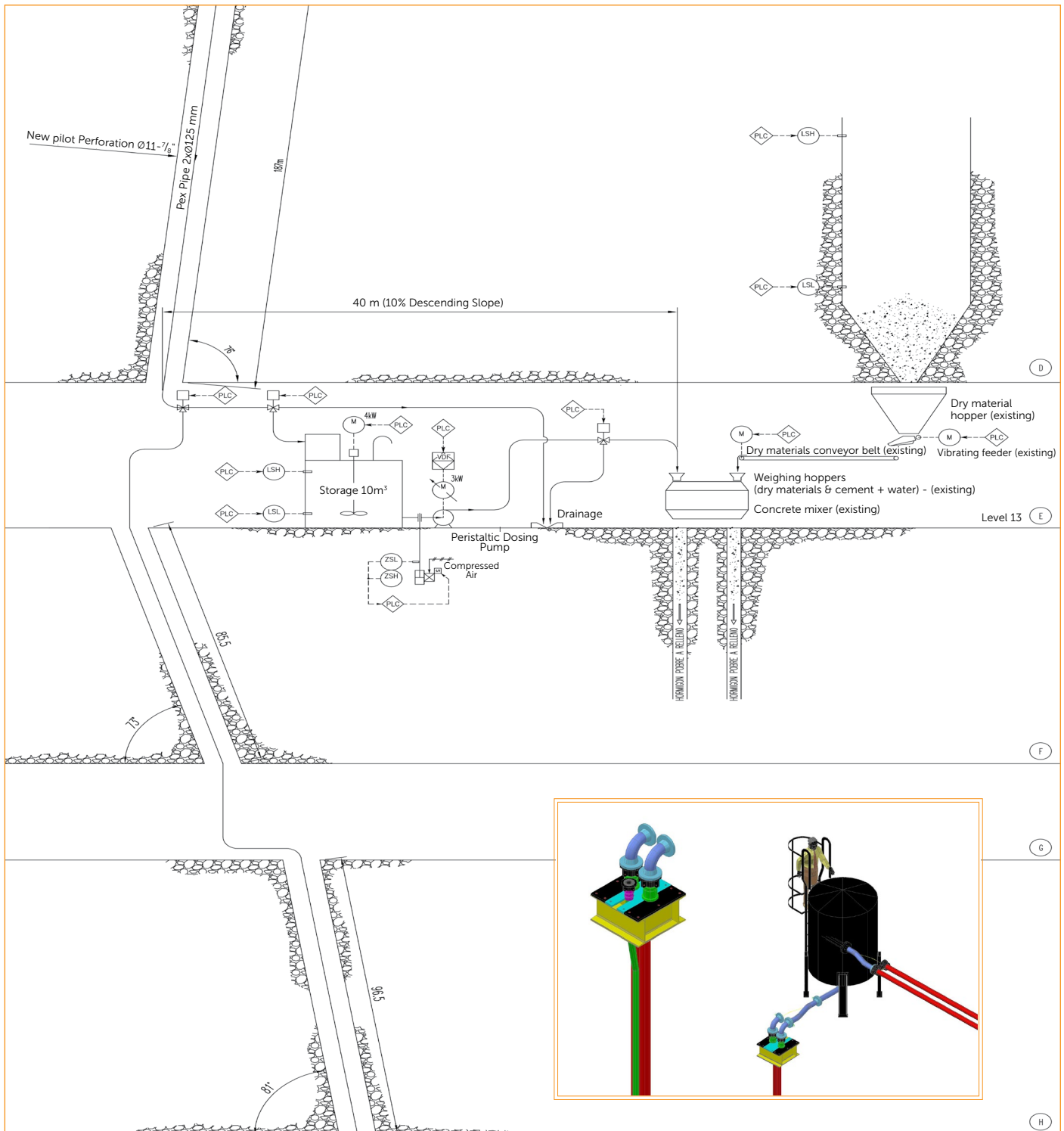


Weight to guide the pipes descend



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4B ALTERNATIVE - BACKFILL

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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 non-stop performance in some of the world's harshest environments.
- **Low weight:**
Compared to steel or rubber, Pexgol's solution results in reduced transportation, storage and labor costs due to lower weight per meter.
- **Long pipe sections:**
Pexgol's pipes can be supplied in long lengths coils, reducing number of joints, installation time and risk.
- **Creep and impact resistance:**
Pexgol's crosslinking piping solution can withstand high amounts of axial and radial stresses and are highly resistant to impact, fracture and fatigue. Our pipes are also completely resistant to cracks – even when dragged over sharp rocky terrain and coagulated salt crystals.

