GENMINE

BESPOKE MEMBRANE CHEMISTRY FOR THE MINING INDUSTRY

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Case Study

Mining and Metals: Barren Solution Treatment at a Peruvian Gold Mine

Project specifics

- Plant size: 24,000 m^3/d (5T@200 m^3/hr)
- Feed water: Brackish – gold leach process water
- Recovery: Plant 1 – 65 %, Plant 2 – 75 %
- Process: UF ➡ NF ➡ RO

The challenge

A gold mine in Northern Central Peru operated by a major American mining company needed to reduce the level of dissolved salts, cyanide and traces of gold contaminants in barren solution, to comply with environmental regulations for discharge.

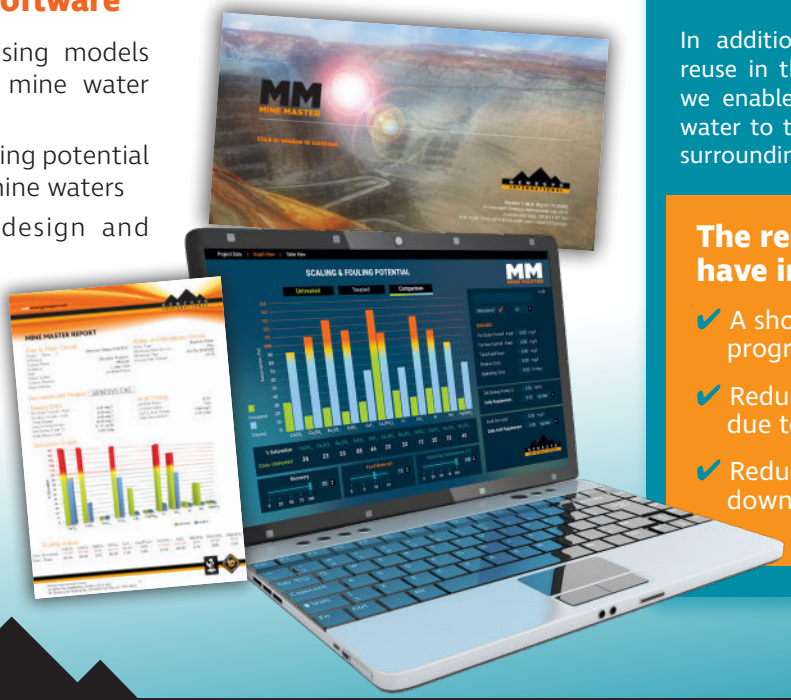
The Genesys solution

Our Membrane Mine Master software prompted us to recommend a new maintenance regime using GenMine AS65 antiscalant and Genmine C17 and GenMine C20 cleaners.

The reverse osmosis train

Mine Master - Scaling Prediction Software

- Developed using models from global mine water analyses
- Analyses scaling potential for specific mine waters
- Aids plant design and optimisation



Innovation

We use our robust knowledge of membrane fouling to design client-specific antiscalant and cleaning regimes, based on our innovative products and technologies.

Our range of antiscalants help to maximise recovery and our GenMINE™ cleaning range helps to reduce cleaning duration and frequency. Furthermore, our innovative Genairclean™ method uses dual generation air-bubble technology to improve membrane cleaning efficiency.

Forensic analysis of membranes from operational plants, led by the team at our recognised centre of excellence in Madrid, enable us to provide mining companies with tailored solutions to optimise plant performance.

Sustainability

We have a verified track record of treating challenging, variable effluent mine waters, ensuring that mining operators protect the environment.

In addition to cleaning water for reuse in the mines, where possible, we enable them to supply potable water to their own camps and even surrounding villages.

The results have included

- ✔ A shorter cleaning programme
- ✔ Reduced cleaning frequency due to cleaner membranes
- ✔ Reduced operational downtime

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