



Case Study

Mining Industry

Gold mine chemical treatment for cooling towers.



Problem Statement

The mine uses a refrigeration system to control the atmosphere underground. The cooling water from the nearby lake and the cooling tower have been in a very bad state with extremely high levels of microbiological growth, which reduced the cooling efficiencies. The open cooling tower required monthly cleaning, resulting in high operational costs and reduced downtime for cleaning.

Solution

A one-month plant trial was conducted using a specialised chemical treatment programme designed by Watericon, featuring the Hydrance range of chemicals. The programme delivered effective bio-management while minimising the risk of scaling and corrosion.



Performance Target

- Clean cooling tower (removal of biofilms)
- Reduced tower cleaning
- Cycles of concentration between 3-5



Process

- Continuous chemical dosing with the Hydrance range of chemicals
- Daily water analysis (Total Bacteria Count, Conductivity, pH, Total Hardness)



Results

- Trial was run for 3-months following positive results.
- No tower cleaning was needed during the trial, reducing costs and downtime.



Unexpected learnings

- The mine draws water from the closest lake, which has high levels of suspended solids, contributing to micro-bio growth in cooling systems.