CASE STUDY

project:	Protecting Assets Through Smart Scale Chemistry
product:	WTS 4-16 Antiscalant
industry:	Mining
location:	Queensland Gold mine

Background

A Queensland gold mine was experiencing scaling due to elevated calcium and magnesium hardness in the process water. Water analysis and modelling confirmed a high potential for calcium carbonate scale formation under the site's operating conditions.

The client initially sought advice on acid dosing to reduce scale potential through pH control. Through consultation, Water Treatment Services (WTS) identified that pH control would introduce corrosion risks to iron-based infrastructure and proposed an antiscalant treatment program to control scale formation without compromising equipment integrity.

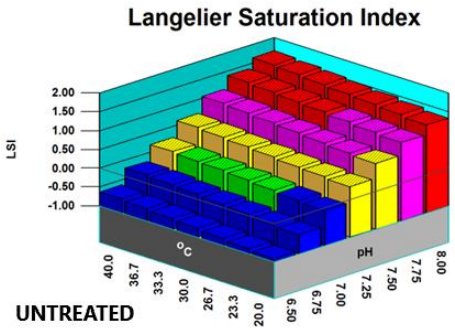
WTS solution

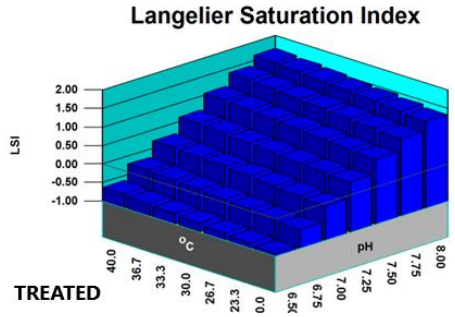
WTS conducted comprehensive water analysis and modelling to evaluate scaling potential and identify an optimal treatment strategy.

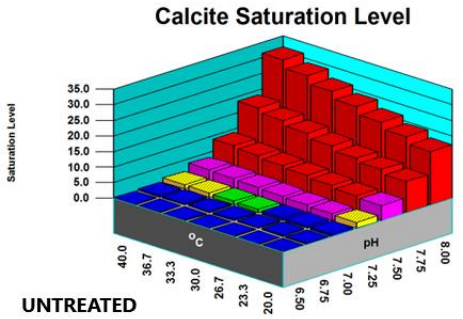
Based on the results, WTS recommended a polymer-based antiscalant WTS 4-16 capable of inhibiting calcium-based scale while maintaining system stability and protecting against corrosion. The treatment operates effectively across a wide pH range and is easily managed through continuous low-dose application, accommodating variations in process conditions such as temperature and flow.

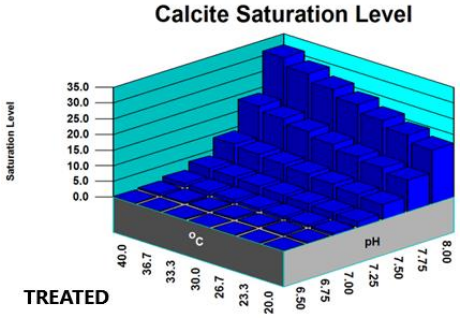
Results and Benefits

- **Effective scale prevention:** Achieved full control of calcium carbonate scaling under operating conditions.
- **Corrosion protection:** Maintained system integrity without the need for aggressive pH adjustment.
- **Operational efficiency:** Reduced maintenance frequency and eliminated downtime caused by scale buildup.
- **Easy to use**: Consistent performance through automated, low-rate dosing.
- **Cost-effective and sustainable:** Lower chemical use and improved system reliability









Red = scaling
Pink, Yellow, Green = potential scaling
Blue = non-scaling