

# Orica's PRO Service delivers results

Granites Mill, Northern Territory

## WHO WAS THE CLIENT?

The Granites Mill is part of Newmont's Tanami Operations and is located in the remote Tanami Desert of the Northern Territory. The site processes about 1.9 Mt of ore to produce 320,000 ounces of gold per annum.



## WHAT CHALLENGE DID THEY FACE?

With global ore grades declining, continuous improvement in the processing plant is essential to ensure the profitability of every operation. Reducing reagent use offers significant and sustainable cost benefits to the operation, but comes at the risk of reduced recovery and greater disruption to process chemistry due to ore variability. Optimising recovery for maximum reagent efficiency requires expertise and careful planning to maximise the benefits while minimising any adverse effects.



## WHAT WERE THE KEY OUTCOMES?

Savings of \$225–450k per annum in cyanide costs

Additional savings in cyanide detox costs

Payback time of less than six months

No penalty in gold recovery

More stable cyanide concentrations throughout the circuit and in tailings

## HOW DID ORICA HELP?

Orica's PRO Service leaching specialist collaborated with the site team to develop an understanding of the site's process performance. With knowledge of the mill's specific intricacies, the PRO Service team scoped opportunities for improvement and recommended a laboratory test program. The laboratory test results predicted a total cyanide cost saving in the order of 10% as well as small gains in gold recovery. Based on the laboratory results, the Granites and Orica PRO Service teams designed and conducted a plant trial. Orica has continued to provide remote support to the site team to aid in trial assessment and the move towards permanent implementation of the improvements.

"We have been impressed with Orica's commitment to optimising cyanide consumption onsite and working with personnel to set up trials. Orica were very co-operative and helpful in assisting with trial methodologies. Orica took the time to conduct a site visit to assist with the plant trial after they had evaluated the onsite laboratory data. They have been proactive in supporting clients cost reduction programs."

Metallurgist at Granites

The above quotation is not intended as a verbatim transcript of comments, but as a summary of a discussion which took place.

# Orica's PRO Service delivers results

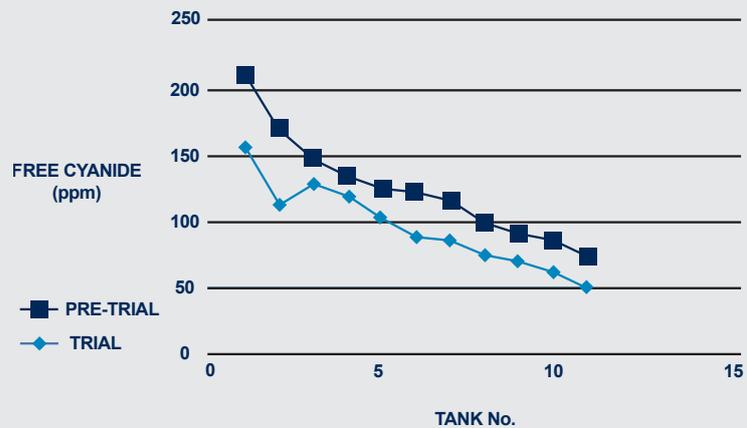
Granites Mill, Northern Territory

## THE OUTCOME

A plant trial performed in September 2013 confirmed that cyanide consumption had been reduced by between 7 and 14%, depending on the comparison baseline. This translates to savings of \$225–450k per annum in cyanide costs alone. The trial also confirmed that these savings could be realised with no penalty in gold recovery. In addition to this, lower cyanide consumption will also reduce costs associated with cyanide detox by a similar margin.

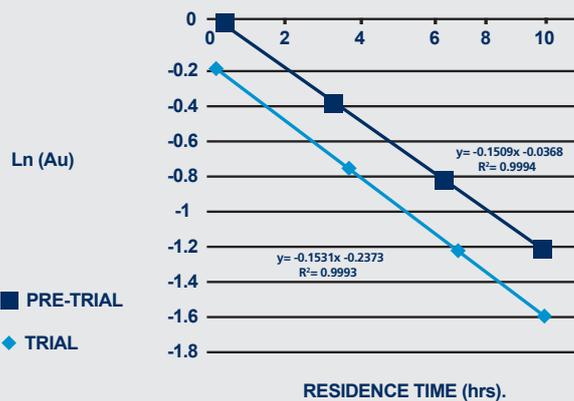
The Granites technical team has progressed to full implementation based on the recommendations proposed by the Orica leaching specialist. The payback time of the project is expected to be significantly shorter than six months.

## REDUCED CN CONCENTRATIONS ACHIEVED DURING TRIAL



Free cyanide concentration profiles show reduced cyanide concentrations across the circuit during the trial.

## LEACHING RATE COMPARISON DURING TRIAL



Gold leaching rate (slope of the line) remained constant despite a lower cyanide concentration throughout the circuit – gold leaching rate in the leach tanks during the trial vs. baseline.