

Orica delivers cost savings

Indonesia

TECHNOLOGY AND ANALYSIS PROVE SUCCESSFUL

The 'G' Gold Mine in Indonesia was tasked with meeting an organisation-wide goal of reducing cyanide consumption by 5%. The process plant set out to implement a site-wide program to increase reagent efficiency thereby reducing costs. Cyanide utilisation was identified as a key area to improve operational efficiency enabling a reduction of cyanide consumption and cost.

Orica's experienced technical team first performed a customer needs analysis to determine the suitability of their products to meet 'G' Gold Mine's needs. The OCM5000 free cyanide analyser was identified as a solution to meet the objectives. As a result the unit was commissioned to monitor and report concentration readings at the head of the leach circuit to the plant DCS (see figure 1).

The data provided enabled automatic control of the cyanide addition thereby providing a more consistent and optimised cyanide concentration without compromising mineral recovery rates.



Figure 1 – Free Cyanide Analyser
OCM5000 at 'G' Gold Mine

WHAT WERE THE KEY OUTCOMES?

Decrease in cyanide consumption by approximately 45%

Approximately 28% reduction in the use of the cyanide destruction reagent SMBS

These figures are based on average consumption in the period Aug–Oct 2009 and signal further future improvements

THE OUTCOME

Since being installed in 2009 the metallurgists reported significant operational improvements on site. There has been a decrease in cyanide consumption by approximately 45%, far exceeding the initial objective of 5%. Further to this, the lower concentration of cyanide in the tailings entering the destruction process resulted in a decrease in the consumption of SMBS by 28% (see figure 2 overleaf). These deliverables were attributed by 'G' Gold Mine's metallurgical staff to the improved control of cyanide associated with the operation of the OCM5000 free cyanide analyser.

“Managing cyanide concentration through manual titration has been superseded by an on-line cyanide analyser at the leaching circuit. It's faster, less fiddly and more accurate. In short, we've optimised the cyanide addition and its concentration in the tanks for greater precision and ore efficiency.

Reducing the cyanide consumption has multiple benefits. It has minimised the cyanide released into the tailings dam and lowered the use of cyanide detoxification reagents.”

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

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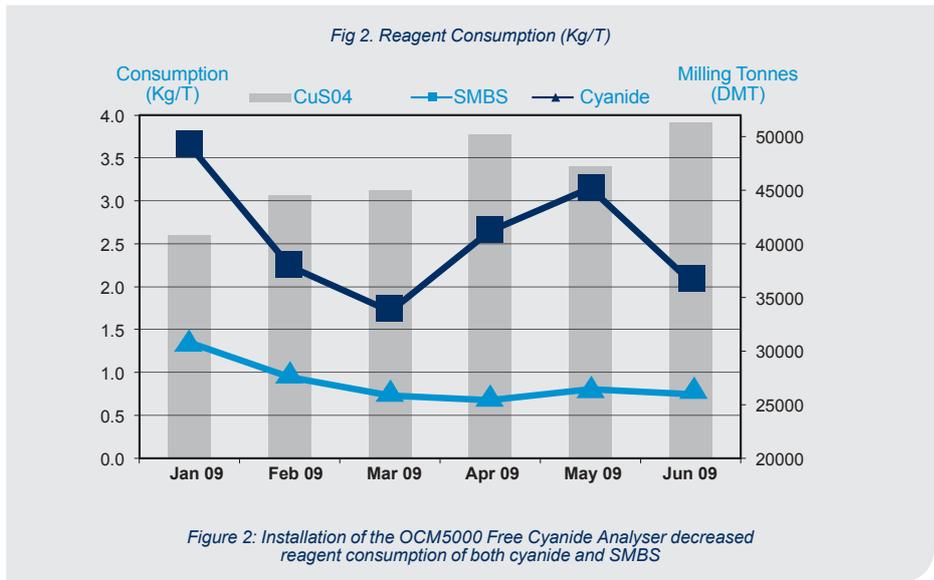
Indonesia

ADVANTAGES OF USING ORICA'S TECHNICAL TEAM FOR SITE SUPPORT ARE:

Experience in installing and operating over 60 analysers worldwide

Best practice knowledge transfer due to Orica's wide customer network

Better utilisation of limited on-site resources



WHO WAS THE CLIENT?

'G' Mine is a gold and silver operation located on the island of Halmahera in Indonesia, which commenced production in 1999 with annual production of around 400,000oz.

WHAT CHALLENGE DID THEY FACE?

Following internal analysis, cyanide was determined to be in the top three reagent costs for the process plant. As a result the company planned to implement a site-wide program to improve cyanide consumption efficiency and thus to reduce costs. In an effort to reduce cyanide consumption by 5% they considered the installation of Orica's on-line free cyanide analyser as a potential solution.

HOW DID ORICA SUPPORT AND HELP?

Orica undertook a customer needs analysis to determine the suitability of their products to meet the mine's needs and how to best implement the program. The OCM5000 free cyanide analyser was identified as the best solution to meet the objectives. Orica installed and monitored the analyser before training the on-site staff to maintain the equipment. Orica continue to provide ongoing support.