Innovative ore control system

A new ore control system has been implemented at an open pit gold mine in Peru, combining Maptek™ Vulcan™ with other processes to streamline analysis.

The Yanacocha Mine is located in Cajamarca, Peru, within the largest gold mining complex in South America. Doré metal is produced as a final product at the open pit mine.

Yanacocha has been using Maptek™ Vulcan™ since 2010. A new ore control system has recently been implemented with the support of Maptek South America.

Ore control is among the many mining processes carried out, with the objective of correctly categorising materials by means of classification polygons. Each class of material must be sent to the appropriate destination that generates the greatest economic benefit for the operation.

> It is important to correctly classify material to positively impact the mining business.

Poor classification of material causes huge issues, such as unnecessary mineral dilution, inadequate recovery arising from erroneous transport to processing, reworking effort, lower productivity and also significant economic loss.

It is also important to consider the practicality of control polygons, to ensure that the material can be extracted by the mining equipment. Complex polygon shapes decrease the productivity of the operation.

Implementation

The new ore control system at Yanacocha has demonstrated a high level of efficiency, great flexibility to handle changing scenarios, speed of results and ease of use.

These features all contribute to freeing up the valuable time of mining professionals, and increase the productivity of the ore control process.

The ore control system comprises eight independent modules covering all process stages. Some of the functionality can be used for other applications in the mine, increasing its value to the operation.

At the same time, the stages combine to form a comprehensive, integrated and adaptable process for any mine.

Benefits of the new system for the Yanacocha Mine include:

- Rapid classification of destinations, based on product benefit functions
- Productivity increase arising from easy setup and quick results
- Solid environmental compliance, allowing polluting materials to be separated out, thereby reducing their effect on the environment
- Facilitation of the creation of polygons with both space and form operational restrictions
- Great flexibility to accommodate changes that the operation faces
- Provision of a fully auditable and transparent ore control process

In summary, the new system is robust, and can be implemented and adapted for any type of mining. The result is that professionals can spend more time analysing and solving problems than running the computations.

Thanks to
Minera Yanacocha SRL
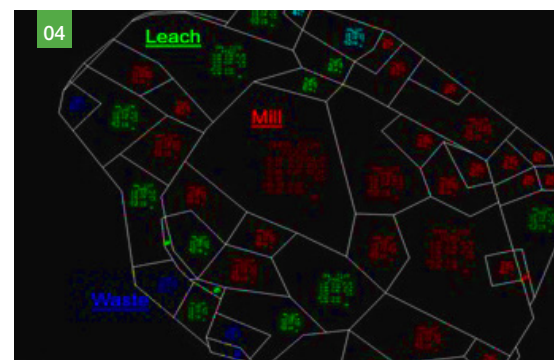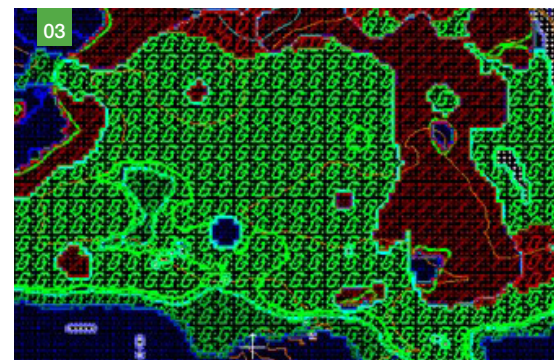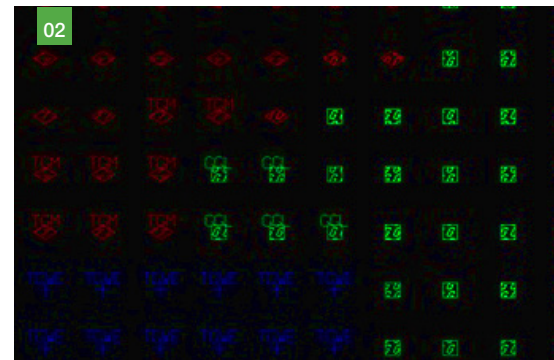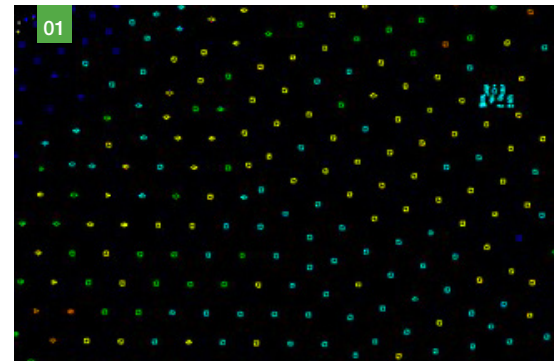
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