WHITTLE CONSULTING

CRC ORE
Optimising Resource Extraction

PRESS RELEASE

APPLICATION OF ENTERPRISE OPTIMISATION CONSIDERING GRADE ENGINEERING® STRATEGIES

5th September 2016

The Cooperative Research Centre for Optimising Resource Extraction (CRC ORE) and Whittle Consulting have recently collaborated to combine the principles of Grade Engineering® and Enterprise Optimisation concepts within an applied research framework.

The synergy between Grade Engineering principles and Enterprise Optimisation was assessed through a case study that examined potential Grade Engineering techniques using advanced modelling across the entire value chain, in a hypothetical, but realistic, mining operation.

With the publishing of this study, the collaborators are demonstrating the ability of Enterprise Optimisation approaches to evaluate and fully value the principles of Grade Engineering coarse-separation techniques. The case study examines potential responses for three coarse separation techniques across different domains in a hypothetical, but realistic, mineralised deposit underpinned by CRC ORE's historical work with actual operations. The results from this work provides a basis for understanding the value of collaborations in Grade Engineering, strategic mine planning and operational optimisation, with the support of mining operations and projects.

VIEW THE FULL REPORT HERE. Be guided through the process and judge the importance of the concepts to you.

The work documented in the report provides validation for the evaluation of Grade Engineering within an Enterprise Optimisation framework and supports the findings of previous Grade Engineering assessments performed by CRC ORE. The financial benefits of coarse separation responses used in the case study were found to be in line with business cases previously developed by CRC ORE in partnership with real-world mining operations and projects.

Grade Engineering®:

Grade Engineering® involves the use of coarse-separation techniques to remove lower-value or uneconomic material prior to energy, water and cost-intensive mineral processing activities. CRC ORE has performed technical proof-of-concept and economic evaluations for Grade Engineering in partnership with more than 20 mining operations and projects around the world. Central to these evaluations are the characterisation of coarse-separation responses within the deposit, identification of value adding strategies for operation and the development of a business case for Grade Engineering within existing and re-optimised strategic mine plans.

www.crcore.org.au

Whittle Consulting Pty Ltd:

Whittle Consulting provides a business optimisation service to the mining industry using a whole-of-business Enterprise Optimisation methodology that models a mining and minerals processing system from resource to market. Prober, Whittle Consulting's proprietary Optimisation software, is used to produce a mathematically optimal schedule of material and financial movements through the operation. Of primary consideration is the effect of bottlenecks which control the rate of flow of money through the system. NPV is used as the financial objective as this accounts for the time-value-of-money and allows direct comparison of different cases. The Enterprise Optimisation approach allows determination of the full value from Grade Engineering, as Prober may alter the behaviour of all elements of the mining and mineral processing system to produce an optimal holistic solution.

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