

Mining Processes

Mining Processes is a division of Projects and Technology. The department focuses on strategic mine planning, the definition and application of mineral resource management principles and the provision of a mining engineering and mobile equipment modelling services to projects and operations within Kumba Iron Ore. Mining Processes supplies a holistic and integrated solution across the value chain ensuring strategic optimisation and maximum sustainable value extraction from the iron ore resource base of Kumba Iron Ore

Expertise is available in the areas of open pit optimisation, mine design, production scheduling, mineral resource management, reserve estimation, mobile mining equipment modelling and mining related technology.

By evaluating the mining value chain from exploration to marketing and leveraging the capabilities of various mining software packages comprehensive mine plans and schedules can be developed for the Life of Mine of projects and operations.

These long term plans include mining related capital and operating expenses, resulting in business related information that facilitates the decision making process for any project.

A holistic and integrated solution across the value chain is supplied by focussing on the following main areas

Strategic Mine Planning

- Developing mining block models for project evaluation,
- Defining the inventory of possible reserves (economic pit limits) through the application of open pit optimisation methodologies,
- Selection of the appropriate mining method and technology,
- Design of open pit mines, waste dumps and related infrastructure,
- Generation of alternative production schedules incorporating market demand,
- Reserve estimation

Resource Management

- Optimising resource utilisation through the appropriate exploitation strategy,
- Optimising the mining value chain.



Mobile Mining Equipment

- Developing of cost models and sensitivity analyses,
- Evaluation of mining technology options,
- Mining equipment selection, analyses and specification,
- Equipment modelling based on production schedules,
- Manpower requirements,
- Estimation of mining operating and capital cost.