



# engenium

smart project delivery

## Demonstrated Capabilities

- Comminution simulation modelling, including mineral processing systems.
- Development of process flowsheets and technical specification for various expansion scenarios.
- SIMCIL modelling - simulation of CIP and CIL circuits.
- Helix conveyor design with DEM chute design software.

## Tanami Expansion Project (TEP2) - Expansion Study

### Client

Newmont Asia Pacific

### Project Location

540 km north west of Alice Springs, Northern Territory.

### Scope

Newmont engaged Engenium to execute a Level 2A Study for TEP2 to determine the upgrades and capital costs that will be required for the expansion of the plant. The Expansion Study was progressed in several broad stages, including developmental requirements for the new crushing circuit and the upgrade process plant, as well as the capital cost estimate.

The three options for crushing plant designs that were modelled in the Study include:

- 3.2Mtpa and 3.8 Mtpa three stage crushing
- 3.8Mtpa crushing with HPGR.

There were a number of other options considered during the Study including; locating the new crushing circuit at the Dead Bullock Soak (DBS) mine shaft tip head, and installing new Carbon In Leach / Carbon In Pulp (CIL/CIP) tankage and equipment to treat higher tonnage.

### Business Objective

The project Feasibility Study was carried out to confirm the viability and profitability of the various expansion scenarios and to justify project funding for the next phase. The key objective of this Study was to select the preferred expansion outcome.

### Challenges to Overcome

One option considered in the study was to position the new crushing circuit next to the existing process plant. The new crushing circuit would require the installation of a new ROM wall together with stockpile pad.

The characteristics of the geotechnical and the hydrology of the proposed new ROM wall, together with the civil foundations location was unknown, presenting a challenge in the capital estimation of the project.

The capital expansion budget was the main driver for equipment selection and the project budget required tight control.

### Smarts

Engenium collaborated with the client to ensure that all the expansion options presented and costed, were able to achieve the required expansion scenarios.

The Engenium project team consulted with several equipment manufacturers to solve technical issues and develop solutions for existing process plant bottlenecks. These solutions were specifically associated with the Leach and Absorption Tank (CIL/CIP) agitation and head loss across the inter-stage screens.

### Project Outcome

The detailed study report included the development of the expansion process flowsheets together with the technical design specifications and equipment data sheets.

Specific equipment suppliers were selected for the next phase of the project and the project was advanced to such a state, that the next expansion project financials were being obtained by the client for the next phase.

### Want To Know More?

For more information please contact our Perth office on +61 (0)8 6460 0300, email [info@engenium.com.au](mailto:info@engenium.com.au), or visit our website [engenium.com.au](http://engenium.com.au).

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