



St Ives Heap Leach HPGR Study

Project Category: Optimisation

Client: Goldfields Australia (Pty) Limited

Location: Kambalda, Western Australia

Capacity: 400 tph

Commodity: Gold



Scope of Work

Two surveys undertaken around the crushing plant at St Ives have been analysed to form the basis of a plant model used to evaluate optimisation strategies including the installation of a High Pressure Grinding Rolls (HPGR).

The aim was to determine the highest sustainable capacity for the existing circuit, currently producing a minus 40 mm product, with the intent to install a HPGR ahead of the heap leach. Earlier spot surveys and Bruno modelling indicated that the existing plant should be capable of production rates in the region of 20% higher than generally achieved. The planned HPGR feed size is nominally minus 35mm with a required plant production target of 400 tph.

Flowsheet

The existing circuit comprises three stages of crushing, product screening and stacking on to the heap leach pads.

Notable Feature

Originally designed for 2.2 Mtpa production, the planned throughput is now targeting 2.9Mtpa.

Outcome

The jaw crusher was recognized as the plant bottle-neck, with alternate operating set points (crusher settings) identified to achieve the total plant throughput required for the planned HPGR upgrade.