



Nickel Laterite Feed Preparation Project

Project Category: Testwork and Design

Client: Confidential

Location: Asia

Capacity: 2.5 tph Pilot plant

Commodity: Nickel



Scope of Work

OMC's scope of work included the definition and management of the ore characterisation testwork, interpretation of the testwork results, optimal circuit configuration selection and indicative full scale equipment sizing. Following on from the initial work, OMC was also involved in the front end engineering of the pilot plant for design confirmation.

Flowsheet

The challenge presented to OMC was to design a flowsheet where limonite and saprolite could be comminuted separately. Each of these has different leaching requirements when subjected to the patented leach process developed by the client. The resultant flowsheet consisted of primary crushing using a sizer, a scrubber with minimal power input to remove the limonite, followed by high ball charge SAG milling to grind the saprolite. A third saprolite source was treated in a single stage SAG mill. Together, three products were to be produced from the grinding circuit.

Outcomes

- OMC specified a testwork program that included ore characterisation, scrubber testwork at varying power input and assay data on the different particle sizes to determine the deportment of Ni, Co, Fe, MgO, Cr and SiO₂.
- Testwork data was interpreted and flowsheet options developed to achieve the client's specification.
- The flowsheet was then engineered in conjunction with Lycopodium Limited to build a 2.5 tph pilot operation. The materials handling and equipment sizing of this tropical laterite, at course lump size and low capacity required specific attention.