ProMet Engineers

Client:
Extension Hill Pty Ltd

Project:
Extension Hill Magnetite Project

Project Location:
350km NE of Perth

Services:
- Preparation of preliminary studies
- Development of BFS and updates of the BFS

1. Project Overview

Extension Hill Pty Ltd (and previously Mt Gibson Iron Limited) a Perth-based company, intends to mine and process iron ore from the northern portion of the Mt Gibson Range, involving Extension Hill and Extension Hill North, approximately 350km north east of Perth and some 80kms east of Perenjori.

ProMet has had a long working relationship with Mt Gibson which developed following the completion of a number of Desk Top, Metallurgical and Feasibility Studies. Part of these studies was the consideration of different processing options and developing the process and engineering designs and cost estimates.

In February 2006, ProMet completed a Bankable Feasibility Study to develop the design of the concentrator plant to produce 5 Mtpa of magnetite concentrate. The principal design included two different processing technologies, new High Pressure Grinding Rolls (HPGR) technology and magnetic separation. These technologies were chosen in order to achieve the correct final grade.

2. Scope of Work

In January 2008, ProMet completed an update to the 2006 study. The scope of work was to consider increasing the original design capacity to 10 Mtpa and update process designs and cost estimates.

The plant is designed to produce 10 Mtpa of concentrate with 95% recovery of the magnetite ore. A challenge for the study team was to engineer a design which minimised both water consumption and power usage for the concentrator.

Extensions Hill's process plant includes the following:

- Receiving -32mm crushed ore
- HPGR's
- Rougher magnetic separation (RMS) and screening
- Coarse tailings screening
- Ball mill grinding
- Intermediate magnetic separation
- Fine Grinding – tower mills
- Concentrate magnetic separation (CMS)
- Concentrate thickening
- Fine tailings thickening
- Tailings filtration
- Co-disposal of dry tails

3. Project Schedule

- Beneficiation Options Study – Oct 2000
- Metallurgical Testwork – 2000 to 2005
- Bankable Feasibility Report – Feb 2006
- Updated Feasibility Report – Jan 2008
- Anticipated Detail Design June 2008