



KEYSBROOK MINERAL SANDS PROJECT

SCOPE OF WORK

GR Engineering was engaged to undertake the engineering design, procurement construction and commissioning of a wet concentrator plant (WCP) and associated infrastructure for the Keysbrook Minerals Sands Project. The WCP featured overland pumping, thickening and tailings storage infrastructure and had a design throughput of 4.5 mtpa to produce circa 119 ktpa of HMC. The HMC was processed further at the Doral Mineral Separation Plant (MSP) to produce approximately 68 ktpa of leucoxene and 28 ktpa of zircon concentrate for export.

The WCP utilised conventional wet gravity separation to produce a valuable Heavy Mineral Concentrate (HMC). The WCP received feed slurry from a Mining Field Unit (MFU) through a dedicated pipeline. Fine material was removed from the feed slurry by hydrocyclones and the “slimes” fraction were delivered to a storage void for dewatering and rehabilitation. Coarse tailings from the WCP were also delivered to the mining void for dewatering and subsequent rehabilitation. HMC produced by the concentration of the feed material was stored and dewatered on the site before being trucked to the MSP for further refining.

The existing Doral MSP was modified and upgraded to enable the Keysbrook HMC to be processed at a rate of 113 ktpa on a month on month off campaign basis. Upon completion, the notional production from the Doral MSP upgrade was 31 ktpa of L70 leucoxene, 37 ktpa of L88 leucoxene and 28 ktpa of zircon concentrate for export.

Commodity: Mineral Sands

Region: Australia

Location: WCP Site - Keysbrook;
MSP Site - Picton WA

Client: Keysbrook Leucoxene Pty Limited

Completion date: December 2015

Project manager: Peter Parsons