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Moolarben gets cells

A COAL mine about 40 kilometres from Mudgee in the upper Hunter Valley, New South Wales, has become one of the latest to commission a set of Xstrata Technology's Jameson Cells.

Infrastructure at Moolarben Coal Operations includes a coal handling and preparation plant that uses dense medium cyclones, spirals and Jameson Cells to produce low ash coal. The CHPP has a design capacity of 1800 tonnes per hour.

In the CHPP the flotation circuit consists of four B6000/20 model Jameson Cells that operate in two modules. Each module consists of two cells operating in series making a two-stage process.

This design provides a robust circuit suited to treat high ash flotation feeds so the desired yields and target ash levels can be achieved from the flotation circuit.

Xstrata Technology senior process engineer Le Huynh said the flowsheet design was well suited to the thermal type coals treated at Moolarben.

Huynh was involved in the Jameson Cell design for this project.

The cells for this project come complete with automatic control and are quick to respond to changes. This makes it easier to optimise the flotation process.

They also are provided with froth washing, an important parameter to control flotation product grade.

The Jameson Cells that have been installed are the latest Mark IV design. These come equipped with lightweight flexible hosing for delivery of the slurry from the

distributor to the downcomers.

They also are fitted with quick release stainless steel victaulic couplings. This provides easy access to the downcomer to inspect the slurry lens during regular maintenance – either on the run or during full plant shutdowns.

A similar system is used on the air lines.

The latest model Jameson Cells have been designed to be user friendly and to boast excellent wear characteristics.

The slurry lens, the item often having the highest wear due to the high velocity jet passing through it, has a proven wear life well in excess of five years in normal operation.

Huynh said growing interest in the coal industry worldwide had led to several Australian and overseas projects being developed that will use the Mark IV Jameson Cells in the flotation circuits of their CHPPs.

These include the expansion at Wesfarmer's Curragh operations in the Bowen Basin as well as mines being developed at Riverdale's Benga Coal Project in Mozambique and Energy Resources' Ukhaa Khudag coking coal project in Mongolia.

Moolarben was developed by Felix Resources, which was bought by Yancoal Australia last year for \$3.3 billion.

Yancoal is owned by the Yanzhou Coal Mining Company. Yanzhou set up Yancoal with the aim of introducing the longwall top caving coal mining technology it had developed and tested in China.

Interestingly, given Yancoal's underground focus, Moolarben is an open cut mine. **AMM**



The Xstrata Technology Jameson Cells commissioned at Yancoal Australia's Moolarben Coal Operations.