

Jundee

Installation of the InLine Leach Reactor



Model:	ILR1000BA
Purpose:	Increase gravity and overall recoveries
Place:	Jundee – Newmont, Australia
Mill Superintendent:	Greg Farrell
Date:	September 2007
Results:	> 90% recovery, > 95% availability

The Gekko InLine Leach Reactor (ILR) at the Jundee site was installed in 2005 by Proteus Engineers and has been consistently achieving in excess of 90% recovery with over 95% availability. The ILR has replaced the shaking tables that were originally installed in the plant.

The ILR is an intensive leach device which uses a high concentration cyanide solution to leach gold from its host ore. Typical leach recoveries can be as high as 99%. The ILR is used to replace shaking tables which have lower and inconsistent recovery.



Jundee gold room operator Paul (left) with Steve Tavani

The unit was designed to improve recoveries from the gravity circuit. Typically recovery across a shaking table is around 50%. The ILR is fed from a 30 inch Knelson over the course of the day, with the concentrates being batched through the unit once per day. Originally the unit received material from both the Jundee and Nimary sites, but now only treats material from Jundee.

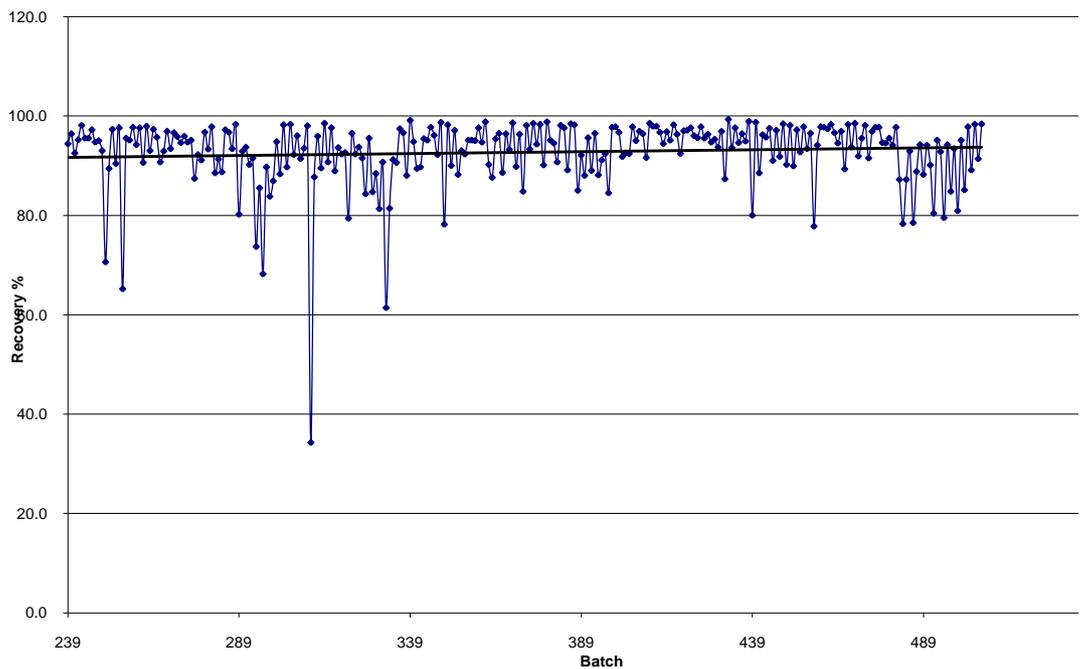
The ILR is a simple design using standard components and with a minimal number of moving parts, allowing the unit to be operated with very little downtime. Low downtime is further enhanced as Jundee's management and staff undertake a systematic and efficient maintenance program.



ILR units require very little maintenance other than a daily grease and inspection (the same as any slurry pump) and run with very little operator input. All functions of the ILR are controlled by a programmable logic controller (PLC). The PLC allows for changes to the program, as evidenced in 2006 when a separate water source was introduced to the circuit to minimise downstream issues. The program change was able to be completed offline and uploaded in a few minutes with no loss of production.

The unit was commissioned and optimised by Nick Katsikaros, Product Improvement Manager at Gekko in conjunction with Jundee metallurgists and plant technicians.

Summary of results:



The ILR averaged 92.7% recovery for the last 267 batches at 100% availability. The data shows recovery results improving over time, which is a typical outcome at start-up due to operators becoming more experienced and increasing their understanding of the metallurgy. This enables them to optimise reagent dosing and parameters to get the most out of their investment.

Greg Farrell, Process Superintendent at Jundee said:

“Solution clarity is very good with minimal floc addition and the gold room operators are all very happy with the ILR.... there has been very little maintenance required on the unit.”

For more information contact:

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CASE STUDY