



Thunderbox

Installation of Gravity System



Model:	IPJ2400, ISP30, ILR100BM
Purpose:	Increase gravity and overall gold recoveries, remove gold locked up in circuit
Place:	Thunderbox - LionOre, Australia
Plant Metallurgist:	Kurt Tiedemann
Date:	May, 2003
Results:	Up to 20% total gold recovered to gravity

The Gekko Gravity System at Thunderbox was commissioned in May 2003 and has demonstrated its ability to achieve gravity gold recoveries in line with the initial test work conducted during the feasibility stage.



**"I am also very impressed with the InLine Spinner.... simple, low maintenance unit."
Kurt Tiedemann, Plant Metallurgist.**

Kurt Tiedemann has worked at Thunderbox on the gravity circuit for 2 years. He made the following comments:

"I am very impressed at the upgrade we get using our Gekko gravity setup (IPJ, ISP). Typical feed to the InLine Pressure Jig ranges from 8-12g/t, with a Spinner concentrate product of 3000-4000g/t. With the high recoveries of the ILR, this is a very efficient and reliable setup."

"The InLine Leach Reactor is an extremely effective piece of equipment. Recoveries of 98% plus are consistently achieved."

"I am also very impressed with the InLine Spinner. Typically upgrades of 5000% plus are seen from this simple, low maintenance unit" says Mr. Tiedemann.



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"I would consider the after sales service... as second to none"

Kurt Tiedemann,
Plant Metallurgist

CASE STUDY

The system was designed and installed by Minproc who worked with Thunderbox owner, LionOre (recently merged with Dalrymple Resources). It consists of an InLine Pressure Jig (IPJ2400) receiving 100t/hr plus of unscreened cyclone underflow. The IPJ2400 upgrades this stream providing a primary concentrate as feed to the InLine Spinner (ISP30).

The ISP30 is a Batch Centrifugal Concentrator and offers specific advantages that include low water consumption and low level maintenance. Coupling the IPJ and ISP allows two different gravity separation techniques to provide optimum recovery and operational outcomes.

Concentrates from the InLine Spinner are treated using the InLine Leach Reactor Batch Manual (ILR100BM). Recovery of +98% in the ILR is consistently higher than CIP recovery, indicating the potential for improvement in overall gold recovery.

The gravity system has been designed for use selectively when ore grades are higher and significant gravity gold exists. Numerous plant trials have indicated the absence of coarse gold in the oxide ore, and minimal fine GRG, with the grinding circuit recirculating load consistently below 10 g/t Au. The circuit was still able to achieve up to 20% gravity recovery in oxide ore. Generally results are in the 5–10% range, which compares well to the design figure of 8% (bankable feasibility study). Gravity recovery is expected to increase with the introduction of primary ore.

The units were commissioned and optimised by Rob Longley, Senior Process Metallurgist at Gekko, in conjunction with Thunderbox Metallurgists and Plant Technicians.

Summary Results:

Date	7/05/03	7/05/03	8/05/03	8/05/03
Time	14:20	16:40	08:20	10:50
Feed Dilution	Off	Off	50m ³ /hr	50m ³ /hr
IPJ Feed (CUF)	8.97g/t	9.23g/t	9.70g/t	7.46g/t
IPJ Con	15.68g/t	14.79g/t	19.29g/t	25.91g/t
IPJ Cycles	160/min	160/min	160/min	160/min
IPJ Hutch Water	50m ³ /hr	50m ³ /hr	45m ³ /hr	45m ³ /hr
IPJ Stroke Length	6	6	6	6
IPJ Cons Flow	22m ³ /hr	22m ³ /hr	22m ³ /hr	22m ³ /hr
IPJ Cons Density	15%	14%	16%	16%
ISP Con	5,732.4g/t	5,011.6g/t	8,604.3g/t	5,892.3g/t
ISP Gold Rec Per Day	3,221g	2,488g	4,204g	4,047g
Est Mill Feed Gold	29,768g	29,768g	21,435g	21,435g
% Total Gold Recovery	10.8%	8.4%	19.6%	18.9%

After Sales Support

"After sales support is excellent, with the team more than willing to go above and beyond to sort out any difficulties or questions you may have. I would consider the after sales service from the Gekko guys as second to none", says Mr. Tiedemann.

For more information contact:

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