



**GEKKO**  
SYSTEMS

# Target Division

## Installation of Batch InLine Leach Reactor

<b>Model</b>	ILR100 Batch Automatic
<b>Purpose</b>	Reduce Labour and Improve Security
<b>Place</b>	Target Division, Allandridge, RSA
<b>Plant Superintendent</b>	Gerald Olivier
<b>Date</b>	February 2003
<b>Results</b>	In excess of 99% Gravity Gold Recovery

In July 2000 Target, a fully owned subsidiary of Avgold Limited, decided to install a Gekko ILR100BA to treat the gravity concentrate. The decision to install this equipment was made by Peter Colvin, Project Manager for the new Target Plant, and Fanie Smit, Manager Surface Operations. Target, located in the Northern Free State of South Africa, aimed to produce 350,000oz of gold annually at below US\$150/oz. Target was already seen to represent state of the art technology in terms of mining and processing for the gold industry and to achieve their aim required the use of some innovative technology which lead the project team to Gekko Systems.



*Target ILR with Sarel Oliver and Gawie Stoltz  
Solution cone is clearly visible.*

Following successful commissioning and optimization of the ILR100BA unit which was used to treat the gravity concentrate by intensive cyanidation, gold recoveries of in excess of 99% are now being achieved.

CASE STUDY

*"the ILR has removed much of the manual labour required and security risks historically associated with the treatment of gravity concentrates"*

**Johnny Botha,**  
Assistant Plant Superintendent

*"in terms of security, it is the way to go..."*

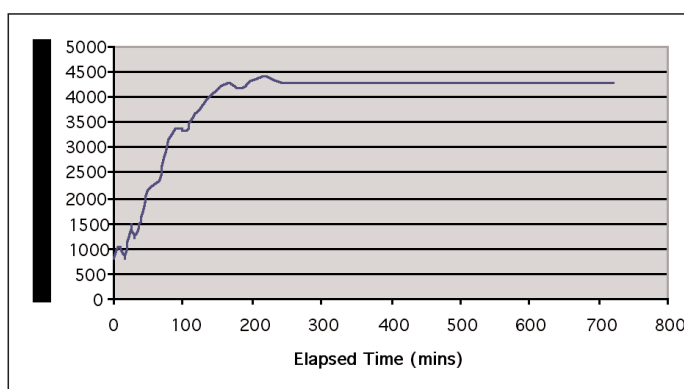
**Gerald Olivier,**  
Plant Superintendent

This decision to install the ILR100BA was based on Target's low manpower complement (two employees in the smelthouse) and to improve cost performance and reduce the arsenic risk associated with smelting gravity concentrates.

The unit was installed and preliminary commissioning carried out in March 2002. During October 2002 Gekko and Target staff committed to fully commissioning the unit and set about resolving the few remaining early commissioning problems.

Gekko and Target staff then ran the unit together for a number of days, where after Target staff began operating the unit alone. Since that time the unit has run continuously, with recent leach profile tests showing that leaching is completed after 8 hours with 99.3% of the gold dissolved, allowing scope for further reagent savings.

The electrowinning of the pregnant solution is also working well, with clear solutions and barren tenors in the region of 5-10 gAu/ton and bullion finenesses in excess of 90%.



Typical Leach Profile: Target ILR

Current operating costs of the ILR at Target are R0.95 per oz gold recovered, with 50% of Target's gold being produced from the gravity circuit.

Although this figure has not increased from before the operation of the ILR, the costs of the gravity gold are significantly reduced as it is no longer necessary to toll treat a significant fraction at the Rand Refinery.

**For more information contact:**

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