



# Antapite Mine

## Installation of Batch InLine Leach Reactor



<b>Model:</b>	ILR1000BM
<b>Purpose:</b>	Increase security and gravity gold recoveries
<b>Place:</b>	Antapite Mine, Huaytara, Peru
<b>Plant Superintendent:</b>	Jorge Oliviera
<b>Date:</b>	December 2002
<b>Results:</b>	Increased gravity gold recovery from 15% to 40% of total gold as well as improved security and handling of concentrates

Gekko recent successfully installed an ILR1000 Batch unit at the Antapite Mine in Peru. The mine is owned by Inversiones Mineras del Sur S. A of whom Buenaventura have a 76.2% share. The unit has been installed to treat gravity concentrates and to replace a shaking table. Luis de la Cruz, Chief Project Metallurgist for Buenaventura, sourced the equipment from Australian based, Gekko. Following installation, gravity gold recovered increased from 15% to 40% of total gold. Furthermore, cyanide addition in the CIP plant fell by 25%.



Peter Gray (centre) with Antapite mine personnel

Gekko undertook preliminary testwork on the concentrates in their Australian laboratory. These tests identified that the concentrates required additional oxygen to achieve peak performance. As a result of optimisation work in the laboratory, leach kinetics in the InLine Leach Reactor have been excellent with only 6 hours residence required to achieve maximum gold extraction. The gold is recovered by a Falcon SB and is very fine, with 90% being below 38 micron. This contributes to poor recovery using a shaking table or fixed bed leaching systems. The ILR retains and leaches all the concentrate with no loss of fine gold.



The Antapite plant is only relatively new having been established 18 months ago. It is located 8 hours drive south of Lima, at the head of the Grande River, in the province of Huaytará, in the southernmost part of the department of Huancavelica. The mine operates at 3500m - high up in the Andes. Buenaventura is Peru's largest goldmining company and has established a reputation for regional leadership. The InLine Leach Reactor is the first of its kind in Peru. AngloGold operates an InLine Leach Reactor also in South America at their Argentinean Cerro Vanguardia operation.

Gekko's Senior Process Consultant, Peter Gray, who undertook the installation, was very impressed by the professionalism and positive attitude of the metallurgical staff at the site. "The met's were keen to improve the metallurgical results of the mine and improve site security. A key target was to eliminate the tabling process which was only achieving 30% on the gold concentrates. We jointly celebrated the successful outcome with the InLine Leach Reactor."

Gekko's staff would like to thank Antapite and Buenaventura for investing in their equipment and look forward to working with them in the future.

**For more information contact:**

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*"We were very pleased with the high recoveries and fast commissioning time. The unit was operational from start up and the first gravity batch treated achieved 98% gold recovery."*

**Jorge Olivera**, Mill Superintendent

# CASE STUDY

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