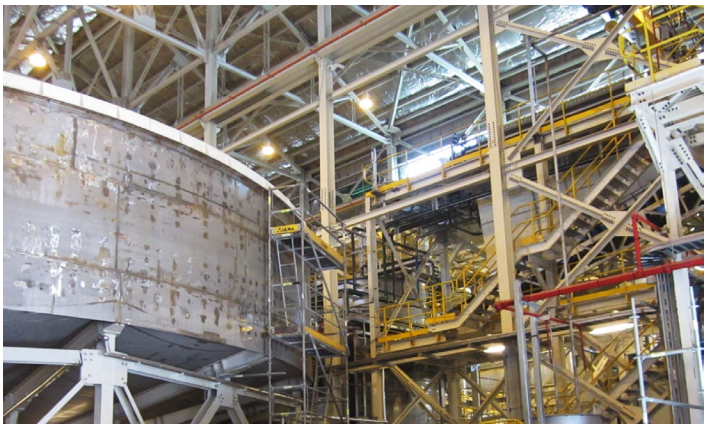
BQE Water **Maricunga Mine,** Kinross Gold



OBJECTIVE
Process review and commissioning of plant under construction

TECHNOLOGY
SART

PLANT CAPACITY
18,000 m^3/day

LOCATION
Copiapó, Chile

BQE WATER SCOPE
Engineering review, identification of deficiencies, plant start-up, commissioning, plant optimization, operator training, operation manuals and standard operating procedures, technical support

Project Overview

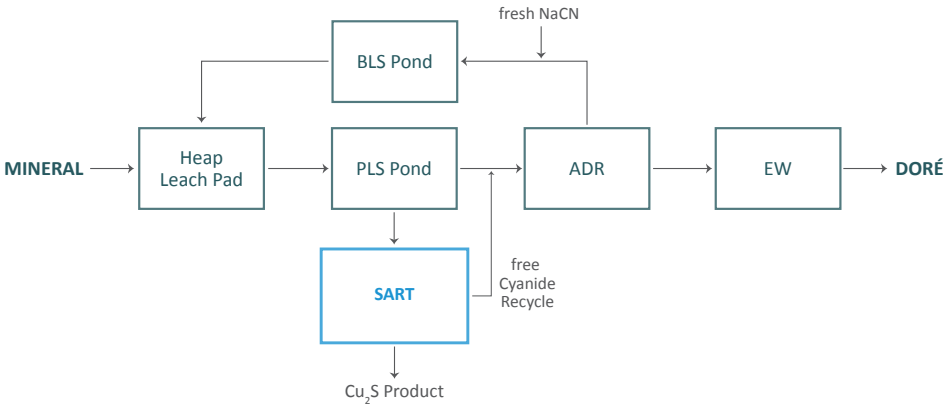
With the SART plant design already underway, BQE Water was contracted by the mine owner to provide process review and commissioning services for a SART plant at an open pit gold mine operation with high copper concentrations in the heap leach.

The gold mine consists of a three-stage crushing, heap leach operation and ADR plant that processes 11 million tonnes of ore annually. From 2005 to 2011, copper concentrations in the leach solution increased from 50 ppm to more than 750 ppm as mining of gold ore with significant amounts of cyanide soluble copper progressed.

Cyanide soluble copper consumes the cyanide reagent used to extract gold from the crushed ore in the heap leach. This leads to a lock-up of cyanide and a contaminated leach solution, resulting in increased operating costs.

Located near the ADR facility, the SART plant was constructed to reduce copper levels in the heap leach. With a capacity of 18,000 m^3/day, the SART plant treats a slipstream of the pregnant leach solution to recover the copper as a commercial grade concentrate and regenerate the cyanide for recycle back to the heap leach.

Process Flowsheet



SART Plant Operating Results

PARAMETER	DESIGN	RESULTS	TPD
Copper recovery	80%	up to 89%	up to 9.6
Cyanide recovery (NaCN)	80%	up to 94%	up to 15.4

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Suite 250 – 900 Howe Street
Vancouver BC Canada V6Z 2M4
www.bqewater.com

Contact our water treatment experts to find out how we can help you.
1 800 537 3073 or **bbaker@bqewater.com**