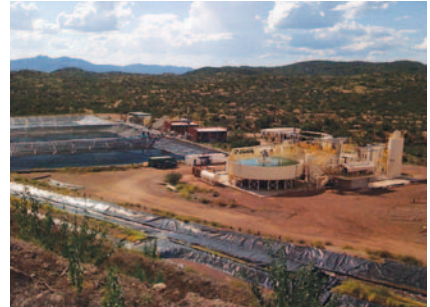


» CASE STUDY

# Lluvia de Oro, Mexico (NWM Mining)

<b>PROJECT OBJECTIVES</b>	<ul style="list-style-type: none"> <li>Enhance gold yields and purity by reducing the metallurgical interference of cyanide soluble copper.</li> <li>Recover a saleable copper by-product.</li> <li>Improve environmental performance by eliminating copper-cyanide complexes in residual leach solution.</li> <li>Reduce site operating costs by minimizing purchases of cyanide for reagent make-up.</li> </ul>
<b>PROJECT SIZE</b>	<ul style="list-style-type: none"> <li>up to 340 m<sup>3</sup>/hr flow</li> <li>Production capacity of up to 900,000 lb Cu and 2.8 million lbs CN annually</li> </ul>
<b>TECHNOLOGY</b>	SART with integral ChemSulphide® circuit
<b>COST</b>	Confidential



The Lluvia de Oro plant recovers high grade copper from cyanide leach solution and recycles cyanide to the gold recovery plant. The process enhances gold yields and improves gold purity.

BioteQ designed, built and operated a solution processing plant using SART (sulphidization-acidification-recycling-thickening) technology at the Lluvia de Oro gold mine in Sonora, Mexico.

The plant brings together BioteQ’s ChemSulphide® process know how for metal recovery with the SART process for cyanide regeneration (developed by SGS Lakefield and Teck Corporation) to remove and recover copper from the cyanide leach solution produced by the gold heap leach operation, and regenerate the cyanide so that it can be recycled back to the gold operation.

Constructed in 2008, the plant has a capacity of 340 m<sup>3</sup>/hr, and is capable of recovering up to 900,000 lbs of copper and regenerating up to 2.8 million lbs of cyanide annually.

The plant produces a saleable high grade copper concentrate containing approximately 65% copper, enhances gold recovery on activated carbon, and improves purity of the gold-silver dore produced at the mine. Up to 95% of the cyanide is regenerated and recycled for gold recovery, improving environmental performance and reducing the operating costs for the gold producer.

BioteQ provided process design, equipment procurement, construction, commissioning, operator training, and operating services for the project.



BioteQ provided a full range of SART expertise for the Lluvia project, including process design, procurement, construction, commissioning and operating services.

Figure 1: Lluvia de Oro Process Flowsheet

