

Establishing discharge standards for a rainforest mine.

Water Quality Modelling



Challenge

To develop a resilient mine water quality model, including waste management and water quality objectives, to meet the unique demands of a dense jungle environment and the specific guidelines of both Panama and the International Finance Corporation (IFC)

Background

Minera Panama's Cobre Panama is a large open-pit development project. The deposits are located 120 kilometers west of Panama City and 20 kilometers from the Caribbean Sea coast, in the district of Donoso, Colon province, in the Republic of Panama. The planned \$6 billion mine is located within a dense rainforest that experiences 4,000 to 5,000 mm of rain per annum, with temperatures between 25 and 30° year-round. As of 2012, the mine plan included the extraction of almost 15 million tonnes of copper, nine million ounces of gold, 170 million ounces of silver and 240 thousand tonnes of molybdenum, over a 30-year mine life.

Project

Ron Nicholson, Principal and Senior Environmental Scientist at EcoMetrix, has worked on mining projects for many years. In discussing the project, he said, "EcoMetrix was retained by Minera Panama SA specifically because of our team's in-depth experience and track record in dealing with projects of this nature. For this project we have refined waste management plans and developed water quality predictions for Cobre Panama's 225,000 tonnes per day porphyry copper-molybdenum-gold operation that is planned for start-up in 2016. The water quality model includes inputs from all mine components, recycle water and tailings pond inputs."

Outcome

The mine will operate under the regulatory framework of Panama and will subscribe to water quality guidelines and criteria defined by Panama and the International Finance Corporation (IFC). Nicholson further stated, "Concern for the natural rain forest environment is a priority both for us and our client, Minera Panama. EcoMetrix is continuing to provide guidance on the quality of discharge waters during mine operation and is developing site-specific water quality objectives to be protective of the downstream aquatic environment."

EcoMetrix Team:

Ron Nicholson

A handwritten signature in black ink, appearing to read "R. Nicholson".