

Start up, commissioning and optimization of the gravity circuit at the Atlantic Gold, Moose River Project in Eastern Canada

A.Frey¹, C. Hudson² and D. Tremblay³

1. Metallurgical Engineer, Sepro Mineral Systems, Langley, BC, Canada, V1M 4AC.
Alex.frey@seprosystems.com
2. Chief Metallurgist, Atlantic Gold Corporation, Vancouver, BC, Canada V7X 1L3.
Chudson@atlanticgoldcorporation.com
3. Metallurgist, Atlantic Gold Corporation, Vancouver, BC, Canada V7X 1L3.
dtremblay@atlanticgoldcorporation.com

ABSTRACT

A discussion of the design, challenges and successes associated with the commissioning of the gravity recovery circuit at Canada's newest open pit gold mine - Atlantic Gold's Moose River Consolidated Project in Nova Scotia in Canada is presented.

An overview of the project, its historical significance and overall flowsheet is provided with special focus given to the design and selection of the gravity circuit equipment including the scalping screen, gravity concentrators and the novel intensive leaching technology selected for the project.

The performance of the gravity circuit is benchmarked against the feasibility study process design specifications and the outcomes are discussed. Challenges encountered during commissioning are also presented, including the use of third-party automation design and the effects of screen sizing on overall gravity circuit performance. Mechanical modifications made to the Sepro Leach Reactor for the Moose River project are also discussed.

A detailed technical review of the mechanical and operational aspects of the Sepro Leach Reactor is provided with key operational data on leach times, recoveries, reagent usage, solid liquid separation, pregnant solution quality and its influence on bullion purity.