

Barrick Gold – Mine Remediation

Giant Nickel Mine, British Columbia

JDS Energy & Mining Inc.

OVERVIEW

The Giant Nickel Mine is a former underground nickel and copper mine, 100% owned by Barrick Gold Inc., who acquired the site in 2003 and is responsible for the remediation work. The site is located in south west BC, approximately 11km north of Hope. The mine and tailings storage facilities (TSFs) have been closed for over 40 years. In 2017 and 2018, Barrick completed grading and stabilization activities as a proactive measure to achieve long-term passive closure. The objectives of the construction efforts were to:

- Regrade the impounded TSF footprint to prevent water ponding and to promote surface runoff to spillways that will pass the Probable Maximum Flood (PMF);
- Enhance stability of embankments for static and seismic conditions and to satisfy acceptable deformation limits during the Maximum Credible Earthquake (MCE); and
- Maximize diversion of upslope runoff that would otherwise drain to the TSF.

SCOPE

JDS was engaged by Barrick mid-project to provide project management, technical support, and to manage construction during the remediation and closure of the historic tailings facilities. Earthworks construction included the movement of over 500,000 m³ of material for grading, stabilization, and water diversion. Technical builds included two buttress underdrain systems, five spillways, and a passive treatment trench. Material creation included blasting, crushing, and screening for the production of multiple filter and bedding materials to specification. JDS was responsible for the operational budget and schedule of the project, as well as tracking production and costs. The JDS project management team worked closely with Barrick, the design engineering consultants Knight Piesold, the local general contractor WTW Ventures Ltd., and various subcontractors. JDS was instrumental in developing new safety, quality control, and maintenance systems in conjunction with the general contractor to meet Barrick's needs and operate safely under the BC Mines Act.

Project Value: \$20.5 M

