

## MURC 2019

**Presentation ID:** 270

**Presentation Format:** Poster Presentation

**Presentation Title:** Finding an Optimized Solution for Acid Rock Drainage in Large-Scale Mines

Mining is a lucrative industry that exists globally. However, if a certain aspect of the project is ignored then catastrophes of any kind can occur. A primary concern pertaining to mining sites is acid rock/mine drainage. The main effect drainage has on its environment is the increased levels of acidity that it produces in the fluvial systems that it comes into contact with. The magnitude of acid rock drainage (ARD) can be identified by a mine located in B.C. known as the Britannia Mine. This mine was shut down before the mining industry became aware of ARD and is identified as one of the largest metal pollution sources in North America. Today, the mining industry is aware of this issue but it is still difficult to utilize a method that optimally reduces the drainage, especially when it comes to large-scale operations. The Antamina Mine Site located in the Andes mountains of Peru is one of the largest copper mines in the world. The University of British Columbia has been working on long-term project that monitors the waste rock of the mine. With this extensive data provided and use of external resources, this project will analyze the various methods available to prevent acid rock drainage and determine the solution that is most efficient at this scale. The first method under consideration is the soil removal, the second being a tarp that is positioned on the surface of the rock and third is the treatment of the drainage through a facility.

### Themes:

Check (highlight) the most applicable theme according to the abstract.

<input type="checkbox"/> Innovation and Technology	<input type="checkbox"/> Health and Wellness	<input type="checkbox"/> Culture and Society	<input type="checkbox"/> Sustainability and Conservation
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### Comments:

A lot of great material. Some suggestions for deletions and substitutions have been offered above.

**Commented [SN1]:** Consider rewording: Mining is a lucrative, global industry. However, if one aspect of the mining project is ignored, catastrophes of all sorts can occur, human and environmental.

**Commented [SN2]:** Insert (ARD) here, then explain what ARD is in one sentence.

**Commented [SN3]:** Replace with ARD

**Commented [SN4]:** Consider deletion so you can get to the research question sooner

**Commented [SN5]:** Substitute with ARD

**Commented [SN6]:** Consider reorder and rewording: The University of British Columbia has been working with the Antamina Mine Site in the Andes mountains of Peru, one of the largest copper mines in the world, to monitor the waste rock produced here. This project analysed the extensive data collected here to test all the existing methods available to prevent ARD and determine the solution most effective for mining work at this scale. Three potential solutions to ARD were identified here: soil removal, a tarp positioned between the rock and soil, and a facility to process and treat the drainage material.