

CAN LITHIUM TAILINGS BE SAFELY STORED IN AN UPSTREAM CONSTRUCTION FACILITY?

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ABSTRACT

The recent high profile tailings dam failure in Brazil with loss of life exceeding 300 persons has led many mining companies and government jurisdictions to consider prohibiting tailings dams raised using the economical upstream construction method. A number of countries and several mining companies have already prohibited or are closing such dams. A particular concern is the potential for liquefaction of the tailings under some circumstances – which is an area of geotechnics that is generally not well understood.

This presentation reviews the risks associated with the upstream construction method and specifically considers typical properties of hard rock lithium tailings to evaluate whether these pose a greater or reduced risk profile than those dams that have failed recently. Alternative methods of tailings management that may be economical for lithium tailings and potential methods to reduce risk to below acceptable thresholds are reviewed.