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Author 1 (CONTACT AUTHOR)

Name: Hanjalika Hazwezwe

Org: Sierrita Operations, Freeport-McMoRan Copper & Gold, Inc.

Country: USA

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Abstract: Mining is one of the oldest professions to date. With the introduction the different mining methods, we encounter different risks that come with the various techniques and exposure.

In recent years we have seen a rise in the litigations against the mining industry as a whole. This has been in part due to the nature of the industry and the risk associated with the profession whether it is geologically driven or misjudgment brought about due to human error. Over the past years, the media has bombarded us with various incidences of mining related injuries. Slope stability accidents have been one of the leading causes of the fatalities/injuries that have been encountered at major US surface mining operations.

With the current rise in metal prices, comes the resurgence of the industry as a whole that not too long ago was doomed for extinction. Existing operations are now forced to dig even deeper to follow some of these depleting ore bodies in an attempt to meet market demands. In the middle of these economic battles is the issue of slope stability. Slope Stability is one of the facets of surface mining that require a clear balance between safety and finance - with steep pit slopes generally favoring economics while shallower slopes are more amenable to workers and equipment. The deeper you go with open pit mining, the more risk and exposure that you have to deal with as the height of your high wall increases.

To date, there have been a number of hardware and software that has been introduced to the slope stability profession to help manage some of this risk and everyday exposure. With so much at stake when it comes to maintaining stable slopes, it comes as no surprise the amount of ongoing research into improved methods of monitoring and analyzing of slope movement data for the purpose of minimizing damage as well as making better scientific judgment on the mechanics of rock behavior.