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Monitoring as an input to support and sequence design

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ABSTRACT

Cannington Mine is a silver, lead, zinc operation located in NW queensland. The operation has been in production for 20 years. Ore is primarily moved through an underground material handling system comprising of a crusher, conveyor and hoist. The underground crusher and conveyor system were sited in lower grade ore when the mine was first commissioned. As Cannington is now a mature operation, this ore is considered run of mine and stoping is progressing into the crusher exclusion zone. As the stoping fronts advance there is increased damage on the crusher chamber and infrastructure. A dedicated crusher monitoring system was installed in 2016 and continuously monitored. This monitoring system has included rockmass and infrastructure instrumentation. It improved the understanding of stress change impacts on the chamber stability and allowed the site geotechnical team to respond to changes both utilising ground support and mining sequences. The monitoring system also enabled safe and controlled closure of the crusher chamber.