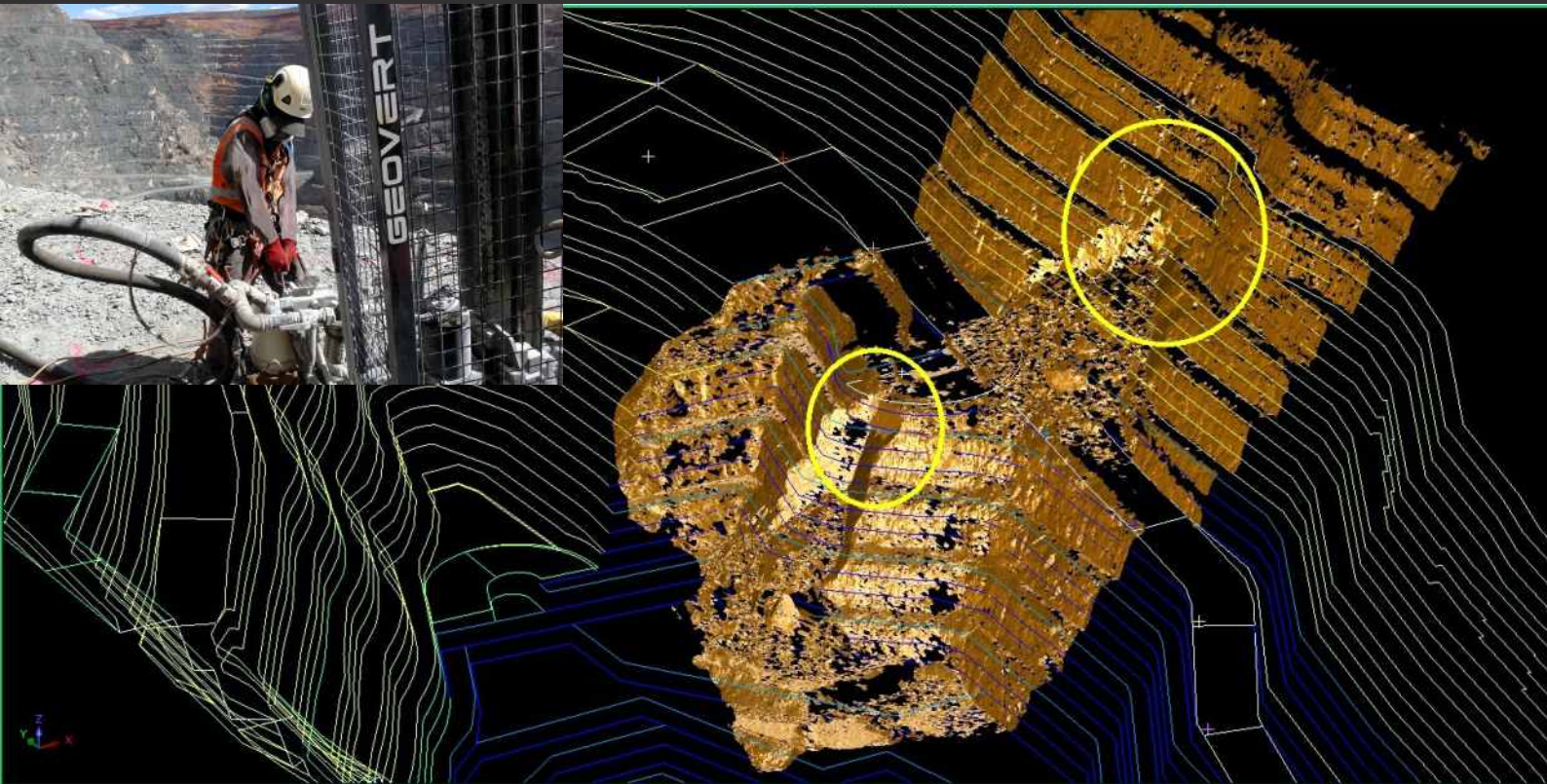




SUPERPIT, WA Y RAMP GEOHAZARD REMOVAL

SUPERPIT, WESTERN AUSTRALIA



SAFE BLASTING PRACTICE REMOVES WEDGE EFFECTIVELY & SAFELY - WITH NO OVERBREAK

PROJECT OVERVIEW

Following a high wall wedge failure above the primary ramp access "Y-ramp", Geovert were called to assist & present options on how to mitigate the risk of a further large scale wedge failure. An effective solution was paramount to avoid a major impact to KCGM's mining production. The project was challenging as there would be no second chances at the Superpit which is such a vital asset to the client and to the wider Kalgoorlie. The 8000m³ wedge was approximately 60m above the Y-Ramp and 100m below the pit crest.

SOLUTION

Geovert's Geotechnical and Blast team lead the development of the specially designed blast with KCGM engineers. The blast was based around carefully managed powder factors and a hole by hole

detonation sequence to target mapped geotechnical defects. The design was modelled in SURPAC and minor modifications to hole location, depth and spacing were made. The concept was then run through SABREX by KCGM to simulate the detonation sequence and achieve the conceptual result the team desired. The blast option was chosen as it was the safest, and most timely solution. Environmental constraints in relation to vibration, dust and noise were also taken into consideration. The blast area forms part of the clients final pit design and Y ramp is a vital arterial route for the delivery of ore from the lower benches to the processing mill within the Superpit. Due to the location of the wedge on the high wall, lightweight drilling equipment was used so that the survey blast hole locations, azimuth and depth could be achieved in the difficult locations.

Blast holes were accurately located using mine survey techniques and holes drilled to Ø89mm and up to 35m deep using rope access techniques. The blast was designed to give maximum throw – in a "cast" style blast, in order to minimise back break and reduce any loose material that was "hung up".

RESULT

The end result was the complete removal of the wedge with no back break damage to the final wall, and the client is now able to resume safe business as usual mining operations on Y Ramp.

Services related to this project

- Drill & Blast
- Ground Support
- Scaling
- Geotechnical Investigation

More information is available online at www.geovert.com