

Secondary means of egress via Emergency Gig

S Green¹, R Austerberry²

1. General Manager, Dargues Gold Mine, PYBAR Mining Services, Braidwood, NSW, 2622. Email: Shannon.green@divminerals.com.au
2. General Manager, Mandalay Resources Costerfield Operations Pty Ltd, Costerfield, VIC, 3523. Email: r.austerberry@mandalayresources.com.au

ABSTRACT

The discovery of the Cuffley Lode at Mandalay Resources Costerfield Operations provided an opportunity to extend mine life via mining the offset depth extension of the previously worked Alison Mine. Access from the existing Augusta Mine, placed the initial Cuffley level access development at approximately 250 metres vertical depth from surface and required the establishment of a secondary means of egress as the new orebody transitioned towards production.

The depth of the initial capital development presented a challenge in establishing a secondary means of egress that could be confidently relied upon. The lack of suitable land to locate a surface shaft collar further reduced available options and the results from geotechnical drilling further limited suitable shaft locations. Time limiting factors such as permitting and having a secondary means of egress in as soon as possible, further highlighted that an innovative secondary means of egress was needed.

Utilisation of an emergency gig lowered by a suitable sized crane supplied by an external crane contractor was investigated and found to be a suitable outcome. This Emergency Gig was deployed via the Cuffley Return Air Raise.

When trialled, the emergency gig was found to provide a reliable, repeatable extraction method with an acceptable level of risk. Issues discovered during such trials further improved the process to a point where this extraction method became the adopted secondary means of egress for additional lodes that existed at depth.

When assessing possible methods of secondary means of egress, the use of a third-party crane and custom designed and fabricated emergency gig should not be discounted. Where a crane can be sourced within an acceptable timeframe, the emergency gig extraction method provides a reliable safe and cost-effective means of secondary means of egress, especially when multiple shafts are to be developed. Local laws may negate the ability to employ such a system, although it is believed with good communication and well-constructed risk assessments, this system can be safely deployed.