



## Significant Incident Report No. 200

**Subject:** Fall of ground in underground mine - fatal accident

**Date:** 20 June 2014

### Summary of incident

A worker was fatally injured in an accident at an underground mine.

An ore drive was being developed by air-leg mining methods. After partially bogging a face that had been fired a day earlier, it appears that the worker had dismounted from the load haul dump machine (bogger) he had been using.

The hangingwall of a shanty back excavation, dipping at about 70 to 80 degrees and partially supported by split-set bolts, collapsed onto the worker while he was on foot in the drive. His body was recovered from beneath the fall of ground some hours after he was reported missing.

### Direct causes

- The installed ground support (spot bolting, split-set bolts) was not effective in preventing the collapse of the hangingwall in the drive.

### Contributory causes

- The system of work did not identify the geotechnical risks of mining in the complex domain in that part of the drive.

### Actions required

Managers and supervisors are reminded of the importance of conducting detailed hazard identification and risk assessments during planning, including ground control measures.

It is essential, at all stages of mining, that mine design, planning and scheduling, including the design of ground stabilisation, is undertaken with appropriate input from competent persons.

A safe system of operation includes:

- adopting an adequate factor of safety to the design of support systems for excavations in the different geotechnical domains, taking into account the variability of the various input factors that may influence the factor of safety
- identifying, by routine geotechnical mapping, changes in rock-mass conditions
- risk-based performance monitoring and control of the quality of installed ground support systems

- risk-based performance monitoring and assessment of the behaviour of underground excavations and installed support systems under the influence of stress in varying geotechnical domains
- only commencing development or stoping work once written workplans, instructions and standards are issued, approved and signed off by relevant competent persons
- training all underground workers and assessing their understanding of the concepts of “supported” and “unsupported” ground.

*Note: Underground inspections by shift bosses and supervisors are only one part of the monitoring process at an underground mine, and such inspections cannot be considered to be the only means of monitoring excavations. Daily inspections will not always detect the underlying geological structures that can affect ground stability.*

## **Further information**

Visit [www.dmp.wa.gov.au/ResourcesSafety](http://www.dmp.wa.gov.au/ResourcesSafety) for information on occupational safety and health in the resources sector.

This Significant Incident Report was approved for release by the State Mining Engineer on 20 June 2014