



Significant Incident Report No. 279

Subject: Paste wall failure

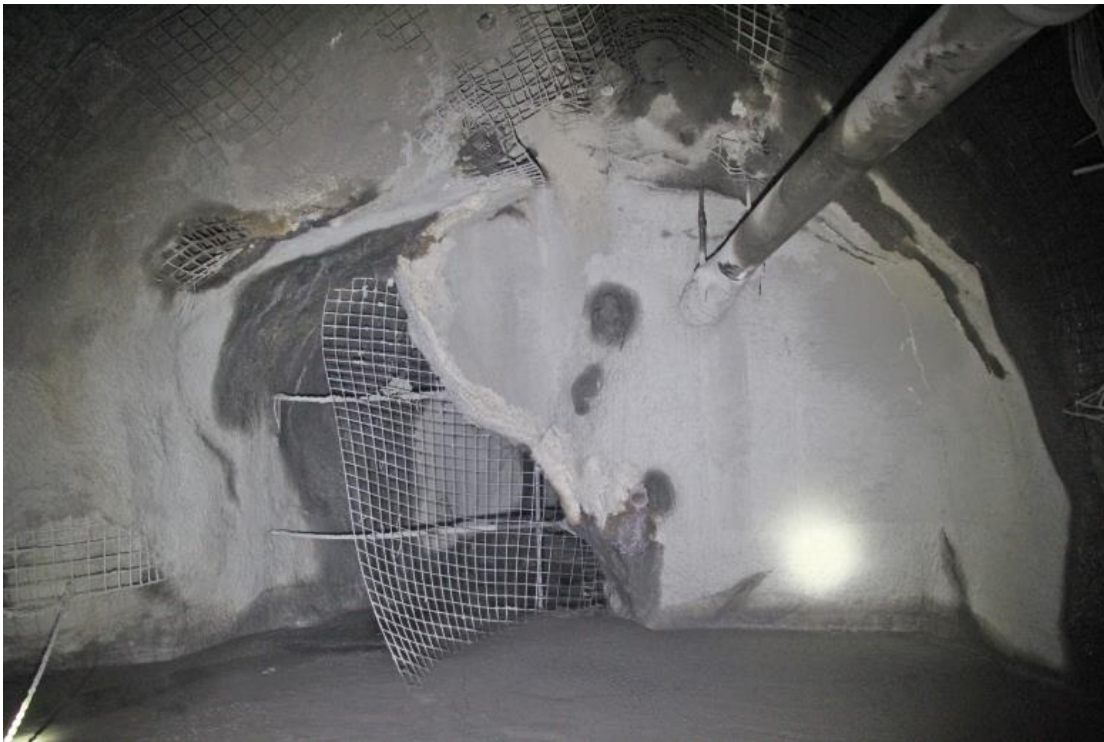
Date: 20 March 2020

Summary of incident

Note: The Department of Mines, Industry Regulation and Safety's investigation is ongoing. Information contained in the significant incident report is based on findings at the time of writing.

In October 2019, two workers at an underground mine were approaching a paste retaining wall during paste filling, when the wall catastrophically failed. An inrush of fluidised paste entered the drive inundating the workers, who escaped by climbing up the wall mesh.

One of the workers called in the emergency on a handheld radio. They were rescued approximately 15 minutes later by climbing into the bucket of a bogger.



Drive side of failed paste wall with fill pipe through wall

Direct causes

The wall failed due to excessive hydraulic pressure being exerted from the paste fill.

The workers were inside an exclusion zone at the time of the incident.

Contributory causes

- A paste wall was constructed in a drive at the top of the stope with the paste fill pipe through the wall. This fill method was used, as there was a blind portion of the stope above the drive and a continuation of the stope underneath the drive to the level below.
- The stope was blocked with substantial rock falls from the backs and walls, which prevented a cavity monitoring survey being carried out.
- The rock falls prevented the paste from percolating into the stope and this led to a build-up of hydraulic pressure behind the paste wall.
- No pressure monitoring devices or cameras were in place to assess the fill conditions from a remote location.

Actions required

The following actions are recommended to prevent similar occurrences:

- Conduct a detailed engineering and risk assessment for individual stopes when paste fill is used. This is especially important when there are variations to standard layouts and processes.
- Use remote monitoring devices such as cameras and pressure sensors to keep workers out of potential danger zones and away from paste walls in particular.
- Establish and enforce exclusion zones to keep workers away from paste walls during the stope filling process.
- Train workers in all operating aspects of the paste fill process, including hazard exposures resulting from the release of paste fill under pressure.

Further information

Visit www.dmirs.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 March 2020