

INVESTIGATION INFORMATION RELEASE

DECEMBER 2019

Worker hit by shotcrete delivery line

Incident date: 10 December 2019

Event: Serious injury in underground metal mine

Location: Woodlawn Mine, Tarago NSW

Overview

A worker suffered serious lower leg injuries when he was hit by a shotcrete delivery line while working underground at Woodlawn Mine on 10 December 2019. The worker was taken to hospital and required surgery. The NSW Resources Regulator has commenced an investigation.

Figure 1 A worker simulating clearing a blockage in a shotcrete delivery line



The mine

Tarago Operations Pty Ltd is the operator of Woodlawn Mine in the Tarago area, about 40 kilometres south of Goulburn. The underground mine produces zinc, lead and copper.

The incident

A trainee mine worker was carrying out shotcreting work in an underground area of the mine while accompanied by an experienced worker. The two workers had applied about five cubic metres of shotcrete when they experienced a blockage in the delivery line of the spray rig. The blockage was believed to have been caused by an oversized rock, or rocks, entering the system during batching.

The workers tried unsuccessfully to flush the blocked line with compressed air. The workers then disconnected the delivery line from the spray nozzle end and again unsuccessfully tried to flush the line using compressed air. The workers informed inspectors they believed that residual air pressure had bled from the system, and one of the workers tried to clear the blockage by hitting the delivery line with a large shifting spanner. The blockage cleared, causing stored air under pressure in the line to suddenly release. The unsecured delivery line jerked, hitting the trainee worker in the lower leg.

The worker was taken to hospital by ambulance. He required surgery for fractures to his tibia and fibula.

The investigation

The Regulator launched an investigation to determine the cause and circumstances of the incident. The mine operator and its mining contractor are cooperating with the investigation.

Safety recommendations

Clearing blockages in the delivery lines of shotcrete spray rigs is a hazardous activity due to the potential for stored energy contained within the system to be released. The sudden release of stored energy in delivery lines can cause them to move unpredictably, causing injury or death.

Operators should take steps to prevent blockages from occurring. This includes quality control measures and prevention of contamination in the storage of and the batching of raw materials in the manufacture of concrete spray mixtures.

Mine operators must:

- identify risks associated with pressurised delivery systems
- implement reasonably practicable control measures to ensure the health and safety of workers conducting inspections, maintenance or cleaning pressurised delivery systems
- ensure plant is isolated and residual system pressure is relieved before starting maintenance or cleaning tasks

- ensure workers are fully trained in the procedures for inspecting, maintaining and cleaning pressurised shotcrete delivery systems.

Mine operators should also ensure that quality systems are in place for storing and batching raw materials used in the production of concrete spray mixtures to prevent contamination.

Operators are also reminded of their duty to identify hazards and manage risks to health and safety, and to provide safe plant and equipment in accordance with the provisions of the *Work Health and Safety Act 2011* and *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and Regulations.

Further information

The Regulator will issue a final report once complete.

About this information release

The Regulator has issued this information to draw attention to the occurrence of a serious incident in the mining industry. Further information may be published as it becomes available.

The information contained in this publication is based on knowledge and understanding at the time of writing. However, because of advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of the Regulator or the user's independent adviser.

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