NSW GOVERNMENT

NSW Resources Regulator

INVESTIGATION INFORMATION RELEASE

DATE: 4 JANUARY 2021

Worker pinned by falling loader cab

Incident date: 30 November 2020

Event: A contract maintenance worker sustained upper body injuries when he was trapped in a crush point underneath a loader cab that had been previously raised for the purpose of a maintenance activity

Location: Attunga Limestone Mine, near Tamworth, NSW

Overview

A contract maintenance worker entered a crush point to re-connect a hydraulic hose strap ('strap') underneath the cab of a Volvo loader relying entirely on the single hydraulic strut supporting the cab without using a secondary cabin support device. The hydraulic control system unexpectedly released and the cab descended onto the worker's upper body. The worker was working alone at the time but mine workers, in a meal room nearby, heard his calls for help and came to his aid. The worker sustained soft tissue injuries and was transported to hospital.

Figure 1 Volvo L220H loader with the cab in the raised tilted position

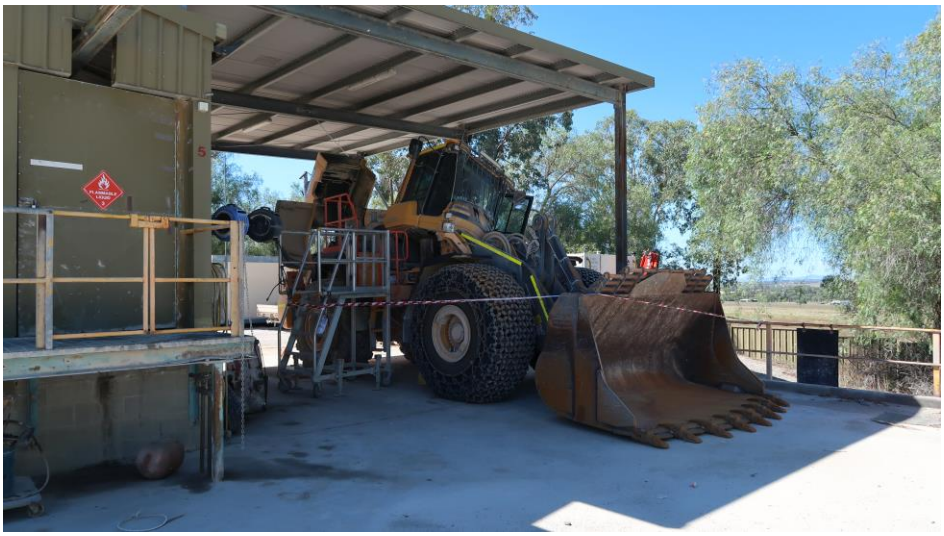


Figure 2 Position of the worker after the cabin was raised and a wooden chock provided by mine workers during the release of the worker

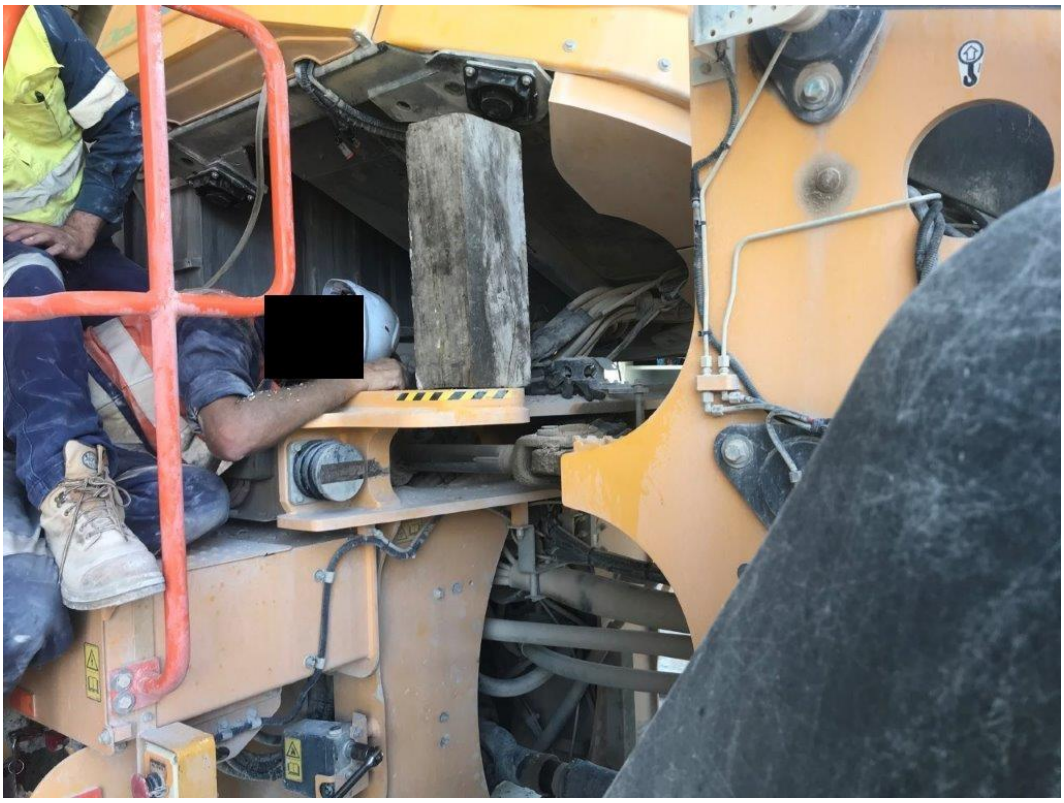
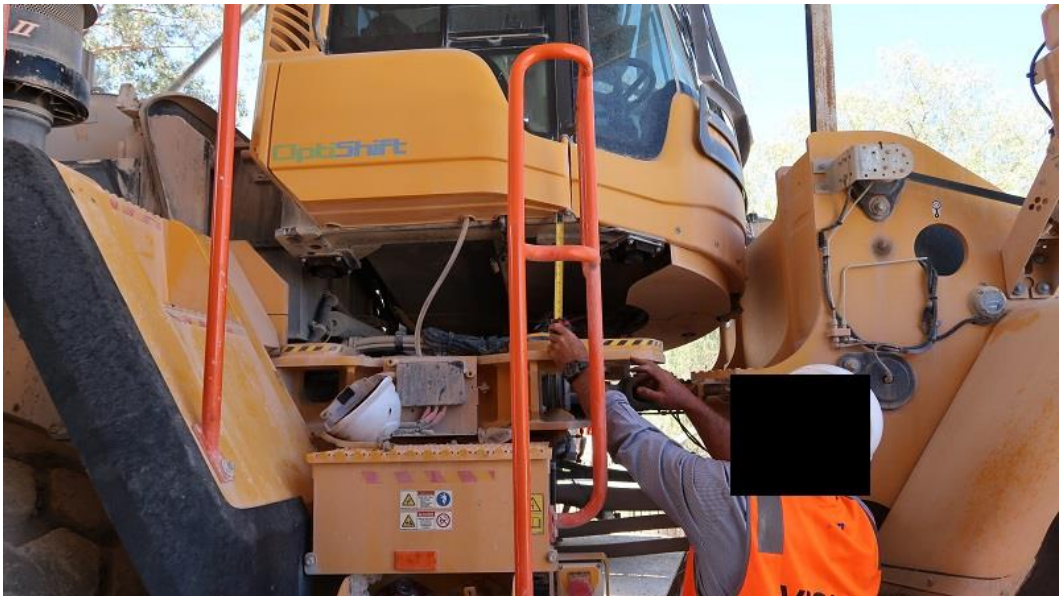


Figure 3 Simulation of the crush point height and the cab position just prior to the incident



The mine

Attunga Limestone Mine is located approximately 20 kilometres northwest of Tamworth and 1.2 kilometres northeast of Attunga. Open cut mining operations, using drilling and blasting mining methods, produce limestone feed for the on-site processing plant. Lime and crushed rock are produced on site.

The mine operator is Graymont (NSW) Pty Limited.

The incident

The incident occurred at approximately 11:50am on 30 November 2020.

A contract maintenance worker attended the site to service a Volvo L220H loader in the mine's service bay. The worker was tasked with changing cab mounts on the loader and needed to raise the cab to access components underneath it.

The worker consulted Volvo's procedure for raising the cab which required the worker to utilise a manual hydraulic pump to raise the cab to a level where it could be secured with a purpose-built locking pin fitted to the frame of the loader. However, because the wiring harness and straps of an aftermarket device fitted under the cab structure were too short, the maintenance worker needed to disconnect the harness and straps to enable the cab to be raised. Despite disconnecting the harness and straps, the worker did not raise the cab to its normal lock out position due to his perception that further harnessing and hoses were interfering with the cab being raised. He conducted the servicing work with the cab supported only by the hydraulic ram with no locking pin in place. There was otherwise no procedure that took account of any inability to raise the cab to the level of the locking pin by mandating, for example, the use of a secondary cabin support device.

Thereafter, when the work was complete, the worker partially lowered the cab in order to reconnect harnessing and straps. The worker again relied upon the single hydraulic ram to hold the cab structure in position while he entered the crush point under the cab to reconnect a strap without using a secondary cab support device. The hydraulic ram suddenly released causing the cab to lower onto the worker's upper body and trap him between the cab and the chassis.

The worker was freed from underneath the cab with the assistance of nearby mine workers. He sustained soft tissue injuries and was transported to hospital for medical review.

Post-incident testing identified that the hydraulic control system would release unexpectedly and allow the cab to descend if the cab structure was bumped with adequate force while in the near lowered position (when raised approximately 350mm).

The investigation

The NSW Resources Regulator has commenced an investigation to determine the cause and circumstances of the incident. The investigation will, among other things, consider the design of the equipment, training and supervision of the worker, as well as the adequacy of policies and procedures relevant to the incident.

The mine operator and the contract maintenance worker's employer are co-operating with the investigation.

A report will be published when the investigation is concluded.

Safety observations

Mine operators and contractors are reminded of their duty to identify hazards and manage risks to health and safety 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.

Mine operators and mobile plant maintenance contractors should:

- ensure that maintenance workers do not enter crush points under suspended loads which are not adequately supported
- ensure that maintenance workers use a secondary support device while working under suspended loads
- ensure that procedures are risk assessed and accurately reflect tasks performed by workers
- provide adequate supervision of maintenance workers to ensure that, when task procedures have changed from those originally planned, adequate new risk control measures are put in place
- provide adequate supervision and observation of contract maintenance workers who are required to work alone in areas of the mine that are not regularly attended by other workers
- review aftermarket wiring harnesses and hydraulic hosing installed on mobile plant to ensure they are installed and operate to prevent unintended risks arising from changes to the original operating design

Mine workers and contractors should never place a body part in a crush point under a suspended load without secondary support devices, such as locking pins, support bars and timber chocks, being provided.

Original equipment manufacturers and suppliers should:

- review cabin tilt designs so that the position of tilt cylinder floats are not in a range that will allow access for a person to position or reach under the cabin.

Further information

Please refer to the following guidance materials:

- AS 4024.1-2014: Series: Safety of Machinery
- MDG 15 - Guideline for mobile and transportable plant for use at mines on mines and petroleum sites s version 9 amended April 2020

  Extract from: MDG 15 section 6.4 Maintenance:

  (Item J) Ensure any changes to the supplied safety features or devices are assessed and documented by a competent person. Where possible the designer or manufacturer should be involved in any assessment regarding the safety feature. The competent person should assess that the change does not present an increased risk to health or safety.
- Safety Bulletin SA20-03 – Truck tailgate hits worker's head
- Investigation Information Release IIR16-08 – Worker dies after being struck by truck tailgate
- Safety Bulletin SA09-14 – Crane A-frame mast falls on rigger

About this information release

The NSW Resources 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.

Visit our website to:

- learn more about our work on causal investigations and emergency response
- view our publications on other causal investigations.

DOCUMENT CONTROL	
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