



Significant Incident Report No. 234

Subject: Light vehicle driven partly over edge of open stope

Date: 09 December 2015

Summary of incident

In April 2015, an underground surveyor arrived at the level that accessed the top of a recently completed stope to conduct a cavity monitoring survey (CMS). After removing the danger and warning signs at the level access, the surveyor reversed the light vehicle towards the open stope expecting to encounter a second set of signs hanging in the access, in accordance with the site's standard procedure. This was the location commonly used to unload the survey equipment.

The vehicle reversed until the rear wheels dropped over the edge of the 18 metre deep open stope, and the frame bottomed out on the floor at the edge of the void. The vehicle's frame skidded 20 to 30 centimetres before stopping. The expected second set of signs had not been hanging in the access.

Using the vehicle's two-way radio, the surveyor called for emergency assistance. An underground loader arrived shortly after and the vehicle was secured to the loader using a chain. On arrival, the emergency response team further secured the vehicle with additional slings and rope then extracted the surveyor through the driver's side window. Fortunately, the individual was not injured.



Light vehicle attached to loader with chain

Direct causes

- The open stope lacked appropriate hard barriers, allowing personnel inadvertent access to the void.

Contributory causes

- Management relied on the lower order control of signage with no hard barriers to prevent access to the top of the open stope.
- The signage process in the site's signage procedure was inconsistent (i.e. reliance on a second sign being in place that was not).
- There was no official procedure for conducting a cavity monitoring survey.
- There was insufficient detail in the procedure for working around an open hole (which is different from working at heights).

Actions required

Resources Safety has issued safety alerts covering similar incidents and guidance on working around openings underground. Mine operators are again reminded of the importance of developing safe systems of work and implementing appropriate controls for all work or travel near open holes underground.

The following actions are recommended to mitigate the risk associated with access to voids in underground mines.

Hard barriers

- Hard barriers should be:
 - designed, constructed and located to prevent equipment accessing the edge of open holes
 - used in conjunction with lower-tier control systems (e.g. clear sign-posting, lockable barriers controlled by supervisors or managers)
 - wherever possible, installed before creating an open hole.

Safe work practices

- Standard operating procedures should be concise and unambiguous for high-risk repetitive tasks.
- Work instructions given to operators should be clear, unambiguous and understood so that there is no misinterpretation of job requirements.

Further information

- Resources Safety safety alerts, www.dmp.wa.gov.au/Safety/Mines-safety-alerts-13194.aspx

Significant Incident Report No. 110 *Vehicle over stope edge*

Significant Incident Report No. 149 *Loader falling into an open stope*

Significant Incident Report No. 199 *Manned loader drives into open stope – fatal accident*

Safety Bulletin No. 3 *Vertical opening safety practice*

- Resources Safety mining fatality summaries, www.dmp.wa.gov.au/Safety/Safety-performance-measurements-7939.aspx

Fatality summary dated 30 August 2007

Fatality summary dated 11 April 2010

- Resources Safety publications, www.dmp.wa.gov.au/Safety/Mining-Safety-publications-16162.aspx

Vertical opening safety practice in underground mines – guideline

Working at height in underground mines – guideline [Refer to Section 5 *Working near openings*]

This Significant Incident Report was approved for release by the State Mining Engineer on 09 December 2015