

SAFETY ALERT

DATE: 9 June 2020

QDS pods fall off dolly car flat top and slide down drift

This safety alert provides safety advice for the NSW mining industry.

Issue

Whilst transporting three QDS pods (ducksbills) into the mine on a rail flat top attached to the dolly car two of the pods detached and slid uncontrolled down the drift. There was no one in the drift at the time of the incident and no one was harmed.

Figure 1 QDS pod arrested by spillage near drift bottom. It had travelled past the pit bottom shunt



Circumstances

The incident occurred around 8:48 pm on Tuesday 26 May, 2020, at a coal mine in the southern coalfields.

A worker was driving the dolly car into the mine at 4 m/s. Attached to the dolly car was a rail flat top loaded with three QDS pods (duckbills). At around 29 man hole the worker heard a bang, noticed sparks down the left hand side of the drift, and applied the brakes. The inbye pod had detached from the flat top and slid down the drift.

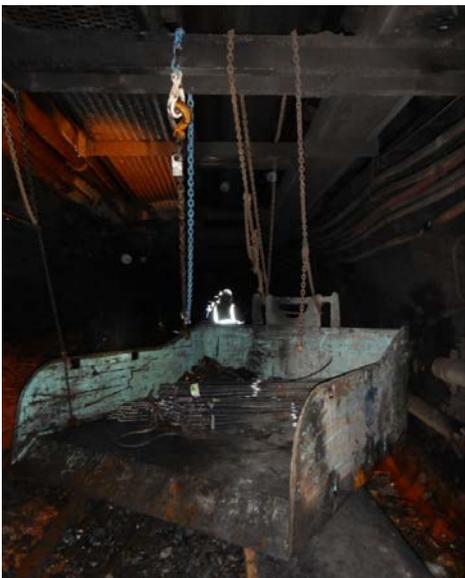
When the dolly car braked to a stop the middle pod also slipped off the flat top and slid down the drift to 32 man hole, where it hit the right hand rib and separated a main water pipe at a joint. The dolly car driver contacted the pit bottom shunt on the radio and advised that they had lost a load in the drift, and then walked down to the pod at 32 man hole.

The dolly car driver was attempting to secure the load to the conveyor structure above with a chain when his AICD (implanted defibrillator) activated. A fitter walked down the drift to the dolly car to temporarily secure the pod from sliding further down the drift and assist the dolly car driver to the surface. The dolly car driver was taken to hospital for observation.

Two workers at pit bottom responded to the radio call and went to the shunt to ensure no other workers were in the area or further down the drift. They saw the pod slide down the drift past the shunt, and then designated the area 'no road'.

The site engineering team responded to the incident and isolated the main water supply to the drift. They also secured the pod at 32 man hole to allow access to the drift to locate the other pod, and to assess any damage.

Figure 2 middle pod had separated water pipe at connector when it wedged against right hand rib at 32 man hole



Investigation

The NSW Resources Regulator conducted a site assessment to gather information about the incident. Video footage of the dolly car on the surface was used to determine the sequence of events leading up to the incident. Witness statements from the dolly car driver, surface yard person, fitter, and two workers at pit bottom were reviewed, along with an interim report by the engineering team on the damage to be repaired. The drift was inspected around 32 man hole, and from the pit bottom shunt to the inbye pod near drift bottom.

Figure 3 video footage confirmed the inbye and outbye QDS pods were chained, the middle pod was not.

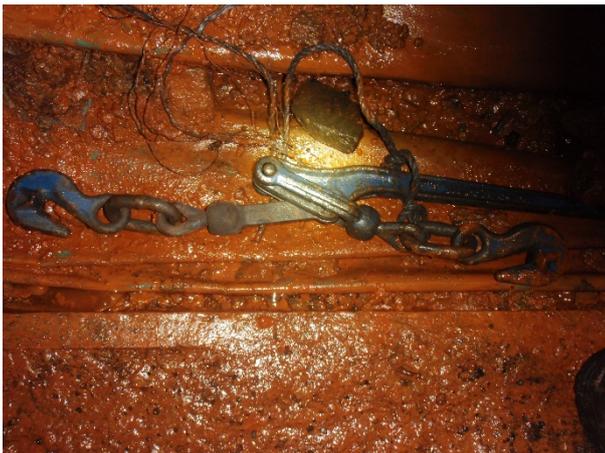


It was noted that:

- The inbye pod had damaged rib mesh, water pipes, conveyor access ladder, walkway support beams, conveyor support beams, turning sheave at pit bottom, a concrete wall, and approximately 40 dolly car rope rollers
- The pod at 32 man hole had damaged the main water pipe
- A lever action chain binder (dog) found approximately 8 metres inbye 28 man hole, shown in Figure 4, appeared to be in a useable condition, and had not come undone as the rope securing the lever to the body of the binder was intact
- The chain securing the inbye pod to the flat top was still attached to the left side of the flat top, but the grab hook for the right hand side was missing its spring safety latch. It is not known if this occurred during the incident
- There was no securing chain placed on the middle QDS pod, and it was seen to slide off the flat top once the dolly car brakes were applied

- Both the dolly car driver and the surface yard person had completed a sling awareness training course within the previous twelve months
- The procedure for securing loads to the flat top:
 - was unclear about the requirements for a headboard on the flat top,
 - had no specific requirements for securing multiple loads
 - did not identify who is responsible for checking the load security
- Witness statements provided conflicting accounts of who secured the inbye pod

Figure 4 chain dog found 8m inbye 28 man hole



Recommendations

Mine operators should consider the following regarding the operation of dolly cars:

- It is the dolly car operator's responsibility to check the security of the load before operating the dolly car
- The use of secondary methods of securing loads should a securing mechanism fail,
- Adequately securing all items of plant and equipment
- The use of head boards on the inbye end of rail flat tops to minimise the potential for equipment dislodging from the flat top and sliding down the drift

- Procedures for securing loads are clear, and include securing requirements for transporting multiple loads on a flat top
- Training competence packages that address securing loads operating on steep grades
- Retraining frequency for workers directly involved in securing loads on equipment operating at steep grades.

NOTE: Please ensure all relevant people in your organisation receive a copy of this safety alert and are informed of its content and recommendations. This safety alert should be processed in a systematic manner through the mine's information and communication process. It should also be placed on the mine's common area, such as your notice board where appropriate.

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