



Mines Safety Significant Incident Report No. 189

Toppled underground drill rig seriously injures worker

Summary of incident

A crew was setting up a portable diamond drill rig for an underground drill operation. The drill site was in a decline that sloped about 10 degrees, requiring the rig to be levelled. As the integrated tool carrier used for repositioning and alignment was unavailable, the crew was using a portable jack and wooden blocks to level the 1.5 tonne rig.

The rig toppled over, pinning the driller, who sustained serious crush injuries to both legs.

Note: In the past year, two toppling incidents involving similar diamond drill rigs have been reported in America and Africa. Neither rig was anchored to the ground before set up commenced.

Probable causes

Direct:

- The rig was being moved by hand by the drill crew.

Contributory:

- The crew proceeded to set up the rig without following the mine's safe system of work.
- The rig was not anchored as recommended by the original equipment manufacturer (OEM).
- The use of wooden blocks increased the rig's instability.
- Fit-for-purpose equipment was not used to reposition and align the rig.
- There was no-one to supervise or assume the role of spotter while the rig was being set up.

Actions required

Establish safe systems of work for setting up diamond drill rigs for operation in underground mines.

Provide OEMs with design requirements based on site risk assessments and task observations rather than purchase machinery based on perceived or advertised performance alone.

Implement competency-based training for work done underground using diamond drill rigs, covering the mine's safe system and the hazards that may be encountered for specific types of plant.

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22 November 2013