

Investigation information release

Date: September 2024

Unplanned explosion during mining operations

Incident date: 20 August 2024

Location: Mt Arthur South (Thiess Pty Ltd) coal mine, Muswellbrook, NSW.

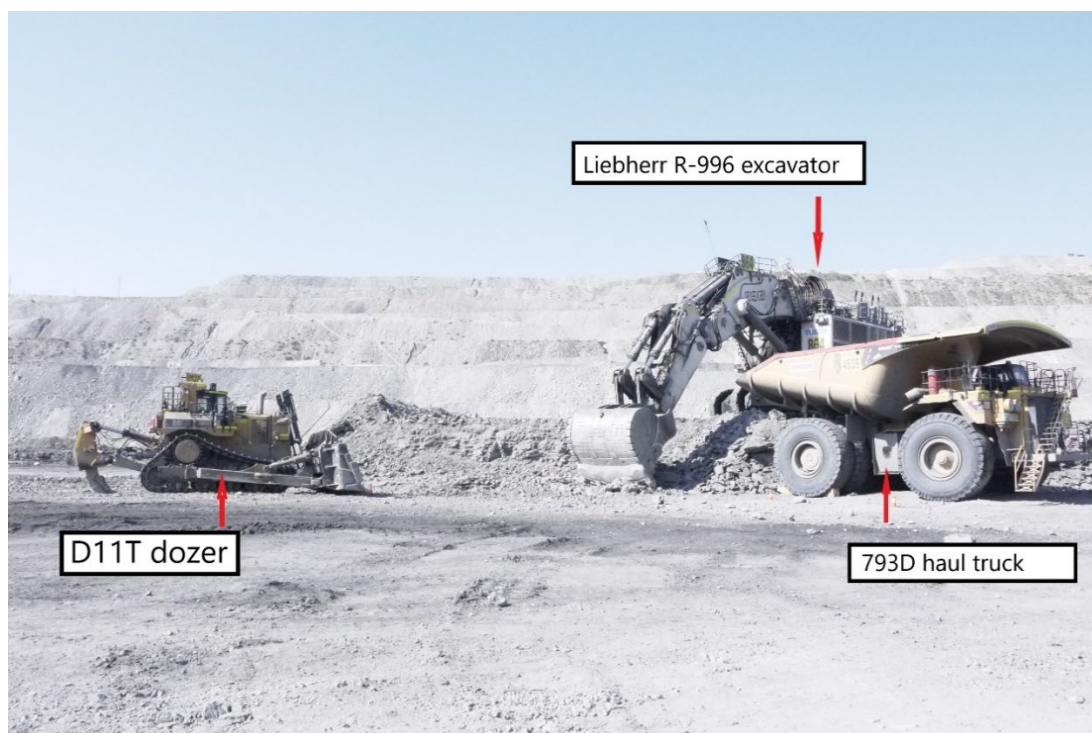
The mine

The Mt Arthur South (Thiess Pty Ltd) coal mine is operated by Thiess Pty Ltd. The mine is an open cut operation and about 5 kilometres south of Muswellbrook in the Hunter Valley. Thiess conducts mining operations in the Ayredale and Roxburgh Pits.

The incident

A worker was operating a Caterpillar D11T dozer in the Roxburgh Pit at the mine about 7.30 am on Tuesday 20 August 2024. The dozer was operating on a bench directly in front of and below a Liebherr R-996 excavator. The excavator was loading a 793D haul truck. The bench being excavated had been fired, in accordance with a planned shot on 20 May 2024.

Figure 1: The dozer, excavator and haul truck after incident



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While the dozer operator was pushing blast waste material on the lower bench, an unplanned initiation of explosives occurred. The explosion caused multiple pieces of fly rock and parts from the dozer blade to be projected about 100 m from the incident site. The location of the explosion left a crater measuring 1.8 m deep, and about 3.5 m in width.

Figure 2: Some of the fly rock (left) and part of the dozer blade (right)



The operator was not physically injured, but the dozer was significantly damaged as a result of the explosion, including a section of blade (Figure 2 above) and glass blown out of the cabin entry door and rear window. The front window of the excavator was also shattered.

Figure 3: Damage to the dozer door (left) and rear window (right)



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Figure 4: The blade of the dozer, showing damage to one side



The investigation

Inspectors and investigators from the Resources Regulator attended the mine and commenced an investigation to determine the cause and circumstances of the incident. During an examination of the area, an amount of material believed to be emulsion and detonation wire was observed. Samples of the emulsion were seized. The investigation will examine, among other things:

- the planning and detonation of the shot on 20 May 2024
- details and adequacy of explosion control plan(s)
- implementation and adequacy of controls to eliminate or minimise risks to workers safety arising from misfires.

Further information

Please refer to the following guidance materials:

- [Safety Alert November 2023 - Unintended initiation of unidentified \(misfired\) explosives during excavation](#)
- Australian Standard 2187.2 (2006)
 - Section 9 Post-blast procedures, in particular 9.4 post blast inspection
 - Section 10 Misfires

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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.

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- learn more about our work on causal investigations and emergency response
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