

Investigation information release

Date: May 2024

Two workers injured at Western Riverina Quarry

Incident date: 13 May 2024

Event: Two workers were injured during cone crusher maintenance work.

Location: Western Riverina Quarry, Rankins Springs

Overview

Two workers sustained burn injuries when cleaning fluid they were using ignited after a cordless battery-powered handheld blower was operated.

The mine

E.B Mawsons and Sons Proprietary Limited is the nominated operator of the Milbrae–Western Riverina Quarry located at Rankin Springs. The quarry produces concrete aggregates and roadbase material. The quarry has been operating since the mid-1990s.

The incident

Two workers were changing the lubricating oil on a Nordberg HP300 cone crusher at approximately 11:50 am on 13 May 2024. The hydraulic/lubrication unit was located at the rear of the purpose-built shipping container, known at the site as the Crusher Lubrication Container. The container had limited ventilation.

Investigation information release IIR24-04

Figure 1 Inside the Crusher Lubrication Container



Figure 2 Oil reservoir and brake cleaner handpump



The workers were cleaning the oil reservoir with rags and brake cleaning fluid to remove sludge that had developed in the reservoir. While cleaning the oil reservoir, one worker used a Milwaukee 18-volt cordless handheld blower to clean dust and debris from the top of the hydraulic/lubrication unit. This task was stopped for a short time. Soon afterwards, the handheld blower was used for a second time and a small explosion occurred, which was followed by a fire inside the container.

Investigation information release IIR24-04

Figure 3 Brake cleaner handpump



Figure 4 Milwaukee battery-operated handheld blower



The 2 injured workers exited the container, located nearby fire extinguishers and extinguished the fire. Nearby workers attended the scene and provided first aid to the injured workers. The injured workers were transported to the local hospital for treatment. One worker received burns to his face, chest and arms and was transferred to Royal North Shore Hospital (North Sydney). The second worker received less serious superficial injuries and was released from hospital later that day.

The investigation

The Regulator responded to the incident and commenced an investigation to determine the cause and circumstances of the incident. The Regulator will investigate the:

- mechanisms of the incident
- design, manufacture and supply of the Nordberg HP300 Cone Crusher
- installation and commissioning of the Nordberg HP300 Cone Crusher
- hydrocarbons used/stored in electrical installations
- instruction, training, experience, work practices and supervision of workers
- adequacy of the quarry safety management system including hazard identification and risk management policies and procedures, and the accessibility and use of Safety Data Sheets.

Investigation information release IIR24-04

Initial enquiries identified that the:

- brake cleaning fluid is a highly flammable liquid and vapour, and should only be used in well-ventilated areas and to use non-sparking tools
- cordless battery-operated handblower uses a *brushed* motor that can create a spark (*brushless* motors are less likely to spark than *brushed* motors)
- design of the container has a requirement to separate the storage of hydrocarbons (oils) from potential ignition sources including electrical energies, hot surfaces and incendive sparking.

Safety information

Mine operators are reminded of their duty to identify hazards and manage risks to the 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 by, so far as reasonably practicable, taking the following steps in the following order and in combination:

1. eliminating the risk, or
2. minimising the risk by providing:
 - a. control measures in the design and construction of the Crusher Lubrication Container.
 - b. adequate protection against the risk through a safe system of work that:
 - i. allows the safe use of hazardous chemicals,
 - ii. allows safe maintenance work on the cone crusher lubrication/hydraulic unit.

Workers are reminded of their duty to take care of their own health and safety and that of their co-workers. They must also comply with reasonable work instructions, policies and procedures.

In particular, workers must:

- be aware of their work environment while using hazardous chemicals and electrical equipment
- refer to current Safety Data Sheets prior to handling or commencing any work involving hazardous substances
- be aware of the interaction of electrical equipment and hazardous chemicals
- ensure they comply with the mine operators' safe work procedures, hazard identification and risk management processes.

Investigation information release IIR24-04

Further information

Please refer to the following guidance materials:

- [Managing the risks of plant in the workplace SafeWork NSW December 2022](#)
- [Managing risks of hazardous chemicals in the workplace SafeWork December 2022](#)
- [How to manage work health and safety risks SafeWork August 2019](#)
- [SafeWork Australia Plant Design Guidance](#)
- [SafeWork Australia Safety Data Sheets](#)

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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