



Quarterly Report

Explosives Inspectorate

April, 2024



Resources
Safety & Health
Queensland

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Unless otherwise indicated, all data is current at this date: 2/04/2024

Message from the Chief Inspector



Hermann Fasching, Chief Inspector – Explosives

The Queensland mining industry suffered another tragic loss in January when a coal mine worker was killed after being pinned between a light vehicle and heavy vehicle suffering major crush injuries. Incidents involving vehicle collisions continue to be one of the top hazards across the mineral mining and quarrying sector. These incidents include vehicles colliding with other vehicles, plant, structures and people.

Vehicle collisions are preventable. I ask every site and every worker to review their site safety and health management systems, operating procedures and work instructions around vehicles.

- Identify the hazards
- Assess the risks and identify controls necessary to reduce the risks.
- Implement controls and ensure every worker understands the risk and the controls.

In October last year sites held Safety Resets, the theme of which encouraged workers to identify hazards and stop work if the situation is unsafe. I want to remind all workers of this message and that if you see an unsafe situation report it to your supervisor or the site senior executive. If your concerns are not addressed, you should contact the inspectorate.



Message from the Deputy Chief Inspector



Snezana Bajic, Deputy Chief Inspector - Explosives

The Explosives Inspectorate organised and participated in many industry forums during this quarter, and it was great to see the industry collectively challenging the "norm" and sharing good practice. It is important to understand that the risk management strategy was not developed by regulators but rather by industries and companies who championed improvements in safety performance. I strongly believe that we can achieve effective and efficient risk management if we, as industry and the regulator share information about incidents and investigations, where we unlock the power of data for a great cause.

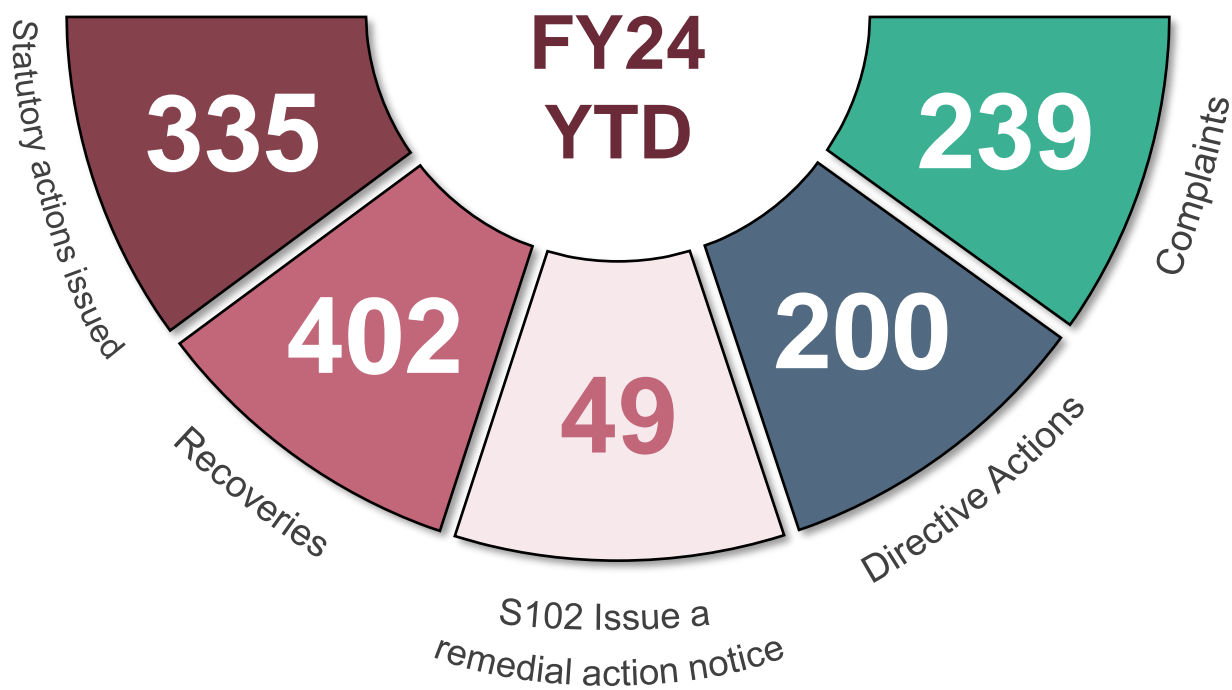
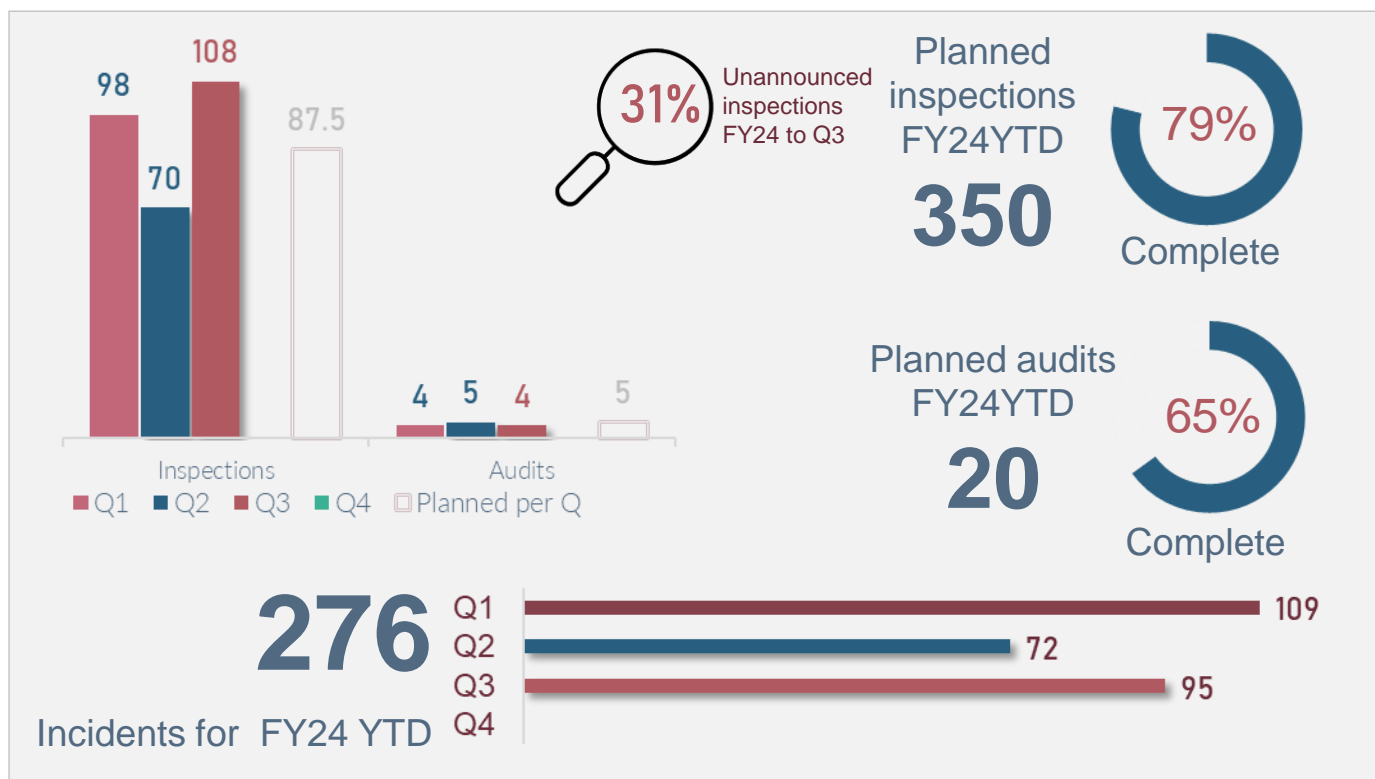
We use tools available to us to analyse the data and get it in a meaningful understandable form; then we share this information and knowledge gathered on industry performance through our reports, safety bulletins, and my personal favourite, industry meetings. It is even more satisfying when one of you reports on the challenges you faced.

This month I was impressed by a company, who after experiencing HPIs on a frequent basis, challenged the "norm", admitted the need for a change and after researching possibilities, implemented different improved methods after which HPIs did not occur. It wasn't easy for this company to stand up at industry forums, admit the issues and share the learnings. They unlocked the power of sharing for a great cause, to help others who are facing the same HPIs on their site.

Finally, through my engagements with the mining industry, I was made aware that drill and blast engineers crave to get their "safety boots" dirty on the bench. Allowing them time to review controls and designs by utilising some proper "on the bench" time would most likely prevent many HPIs. We continue to see incidents which could have been avoided if there was personal engagement of this knowledgeable people on site.



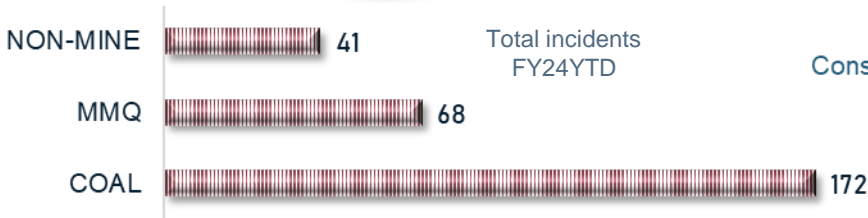
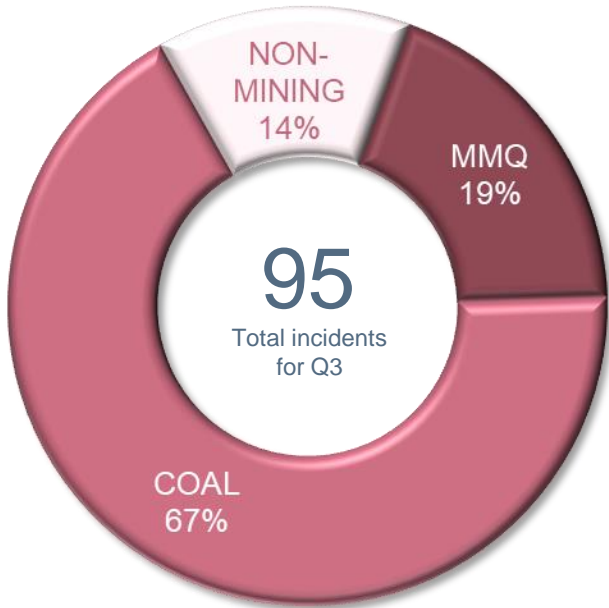
Regulator actions



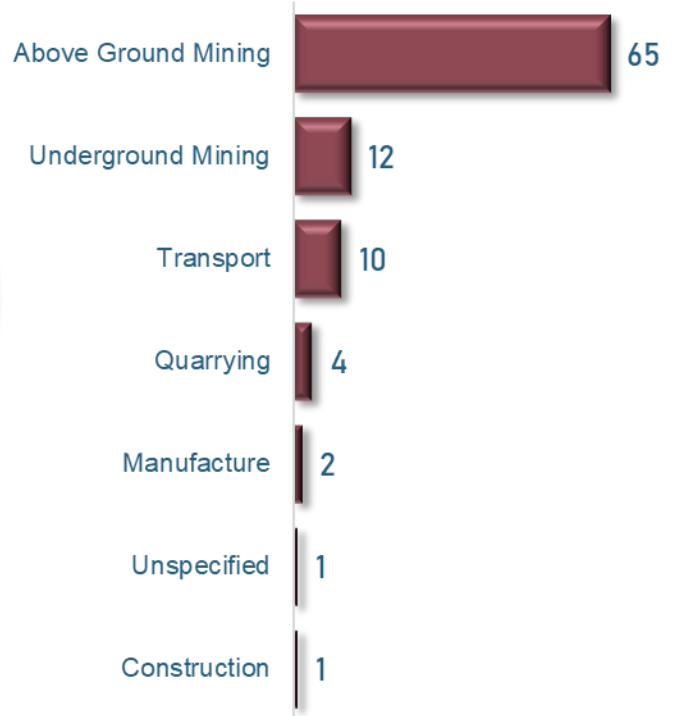
<https://www.rshq.qld.gov.au/about-us/resources/publications/compliance-data>

Incident numbers FY24Q3

Incidents by Industry Sector



Incidents by sector top 10



All other sectors recorded zero this quarter

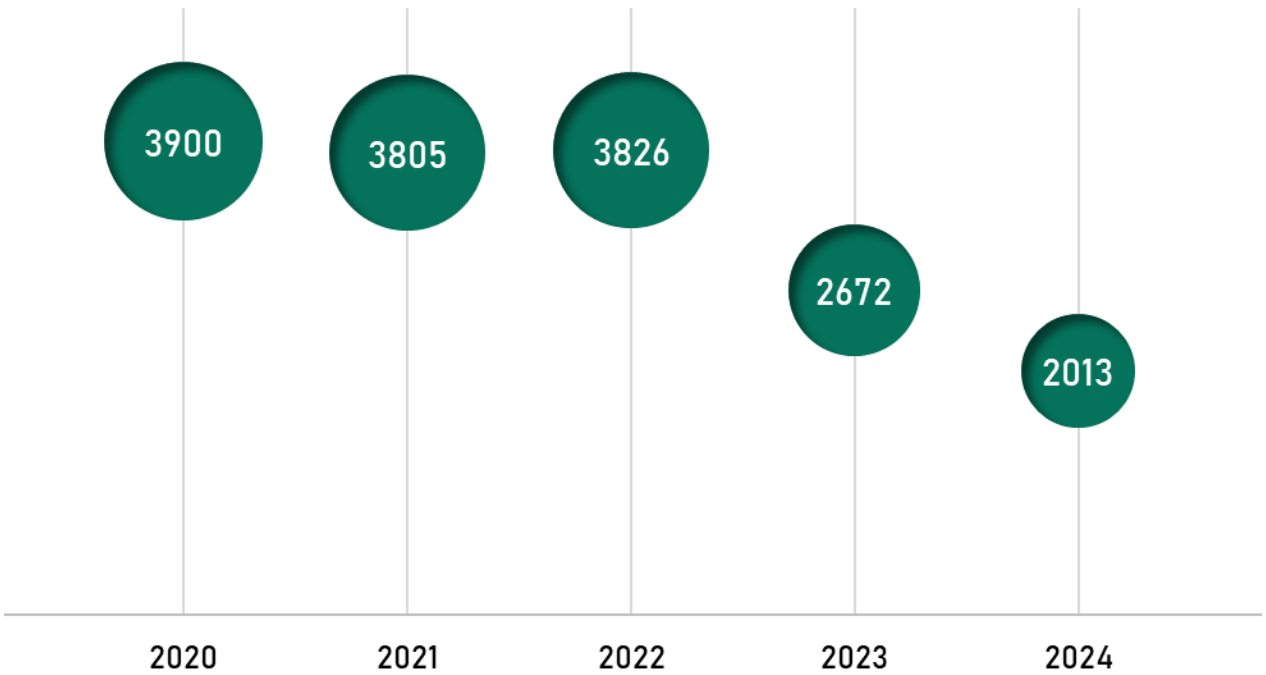


Top 10 incidents by type For FY24Q3

What are the key control failures or areas of safety that have impacted these outcomes.

Security clearances

Security clearances by financial year



Transitional Security Clearances



If you held a security sensitive authority (licence) on 1 February 2020, the transitional security clearance arrangements will expire depending on which of the following applies;

If the licence is renewed **(for a period of less than 5 years)** after 1 February 2020, the transitional arrangements expire on the expiry date of the renewed licence (or earlier if the licence is surrendered or cancelled).

If the licence is renewed **(for a period of 5 years)** after 1 February 2020, the transitional arrangements will expire on 1 February 2025 (or earlier if the licence is surrendered or cancelled).

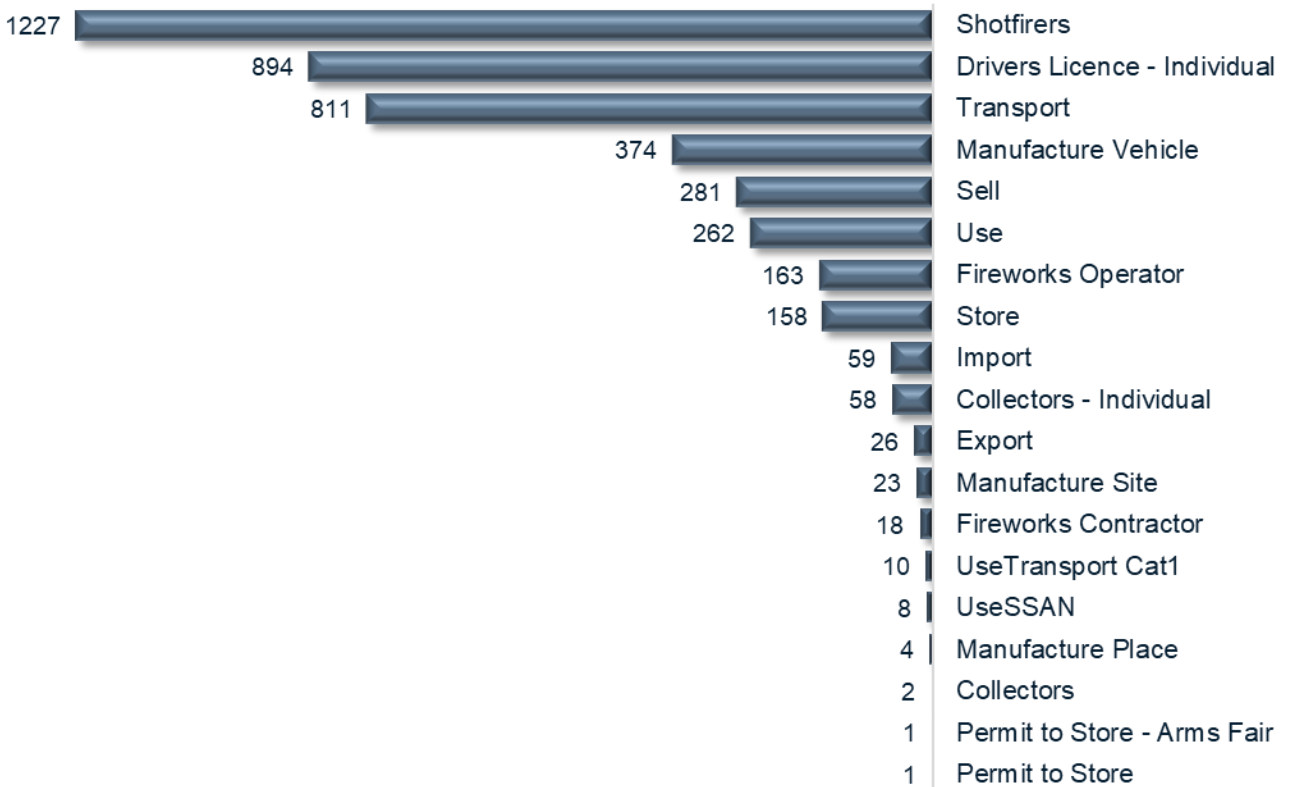
If the licence is **not renewed** after 1 February 2020, the transitional arrangements will expire when the licence expires.

Current licenses

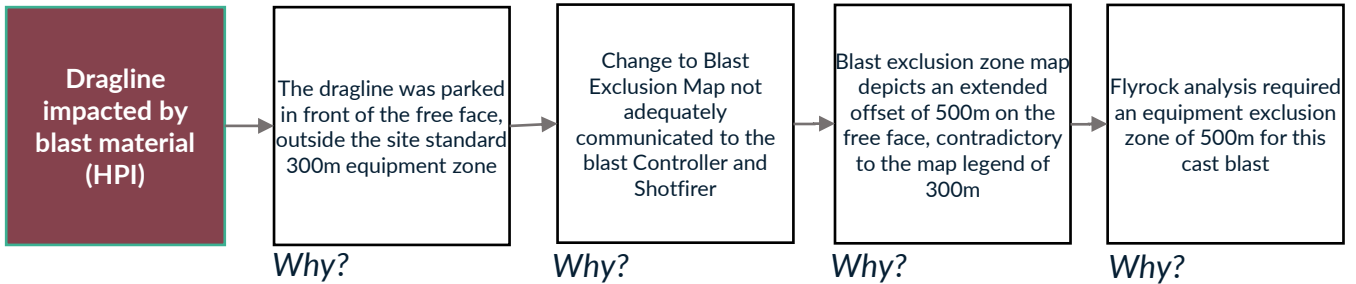


Licenses issued by financial year

Current licenses by class



The material from a cast blast has caused water-logged material in the bottom of the pit to be squeezed out and projected over the spoil impacting the dragline. The dragline was parked in front of the blast, outside the standard 300m equipment exclusion zone. This blast required a 500m exclusion zone in front of the free face, this change was not adequately identified on the blast maps or appropriately communicated.



Figures 1 & 2 – Photos showing the blast and ejected blast material

Contributing Factors

Communication

- The increase in the exclusion zone was not effectively communicated.

Safety and Health Management System

- The increase in the inclusion zone was not identified adequately on the Blast Exclusion Map Prior to firing.
- Flyrock analysis does not consider secondary material being projected from the blast.

Key takeaways

- Communicate any change to exclusion zones of blast management plan to all relevant personnel.
- Identify and remove people and equipment from directly in the line of fire from blasts.
- Review Standard Operating Procedures to address the risks inherent to blasting into bodies of water.

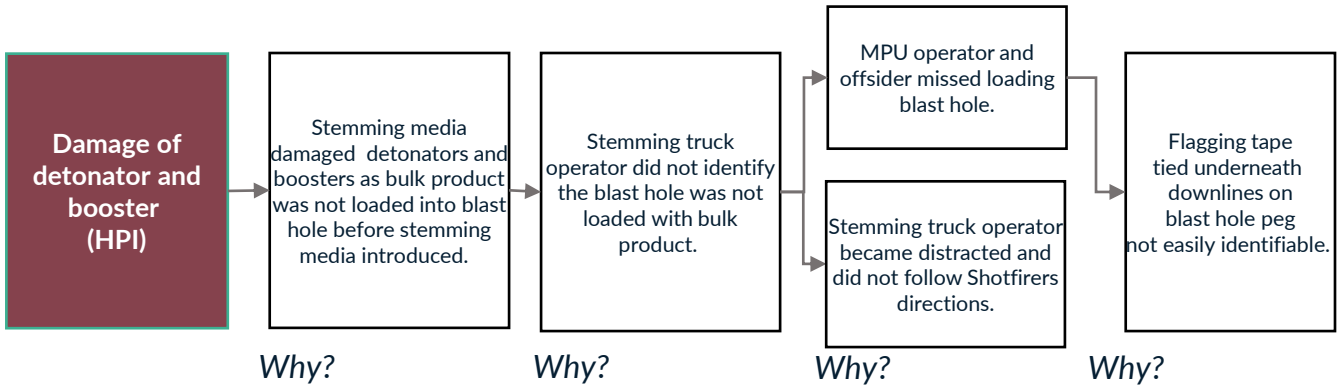
Further Information

- [Safety Alert #72 Failure to recognise a fly rock hazard](#)
- [Safety Alert #66 Quarry flyrock damages industrial buildings](#)
- [Safety Alert #265 Blast-exclusion zones](#)

INCIDENT FOCUS

Initiating explosives damaged by stemming media

A triple primed blast hole was stemmed prior to loading bulk explosives product. There was a potential for unplanned detonation through erosion by stemming of a non-electric detonator and booster. Another two (2) detonators and boosters were damaged and lost down the hole.



Contributing factors

Plant and equipment:

- Multiple bulk products were being loaded into the blast, requiring the need to use flagging to identify different loading requirements.

Human factors:

- Operators and offside failed to check loading and stemming requirements for all blast holes.

Key takeaways

- Job step focus.
- Effective control and communication of activity by the Shotfirer.
- Develop and implement control to positively identify unloaded blast holes.

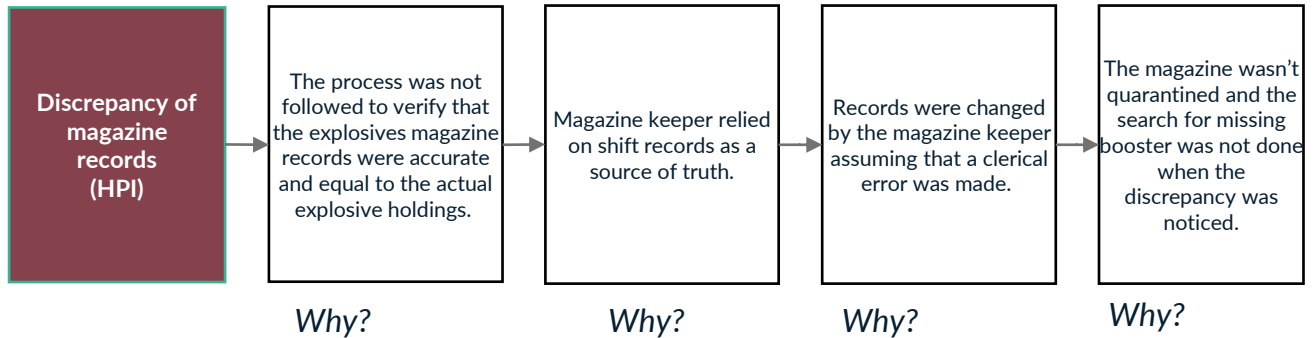
Further information

- [Safety Alert #100 Boosters eroded by stemming material](#)



Figure 1 – Eroded booster with detonator

A routine review of an explosive stocktake record identified a missing Pentex D 25g booster. Days prior to the review being conducted, the magazine stocktake record was altered when an inconsistency between the shift count and the magazine record was noticed. It was assumed that the discrepancy was the result of a miscount. Following the review, the single cast booster was later found after further searches were conducted in a recently worked heading.



Contributing factors

Human Factors

- Explosive counts were not being verified by two people as per the site procedure.
- The assumption that the discrepancy was a clerical error prevented further investigation.
- The identified discrepancy was not escalated to senior personnel on site

Key takeaways

- Persons in charge of an explosive magazines must ensure that regular stocktakes of explosives are carried out to identify discrepancies in holdings or records.
- Explosive incidents are to be reported immediately in the approved form under s56 of the Explosives Act 1999.
- Adequate training of employees in incident procedures is a critical step in all safety and health management systems.
- When discrepancies are identified and not immediately acquitted enact your security plan.



Figure 1 – Pentex D 25g booster

Further information

- [Security in the storage and use of blasting explosives](#)

Key Engagements & Activities

UPCOMING EVENTS

28 th May	Mechanical Engineering Manager Forum
30 th May	Mechanical Engineering Manager Forum
05 th June	Mechanical Engineering Manager Forum

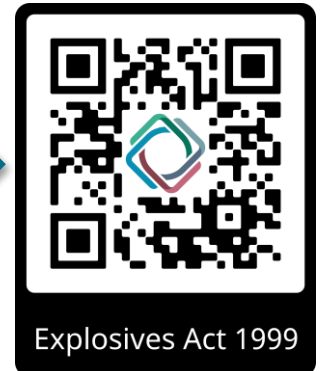
PUBLICATIONS THIS QUARTER

Safety Alert 114	<u>Faulty alternator catches fire on SSAN transport</u>
Safety Alert 115	<u>Unplanned initiation of pyrotechnic distress signal</u>

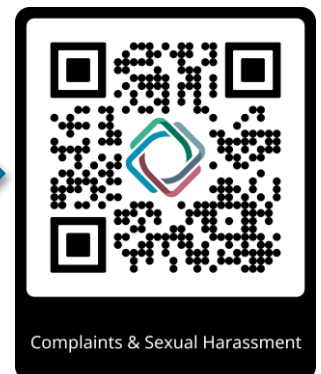
Use this QR code to access other contact information and to report an incident



Use this QR code to access the Explosives Act



Use this QR code to access to learn how to make a complaint and get advice



Licensing: explicensing@rshq.qld.gov.au

General Enquiries: explosives@rshq.qld.gov.au

Phone: (07) 3199 8023

Web: RSHQ.qld.gov.au



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