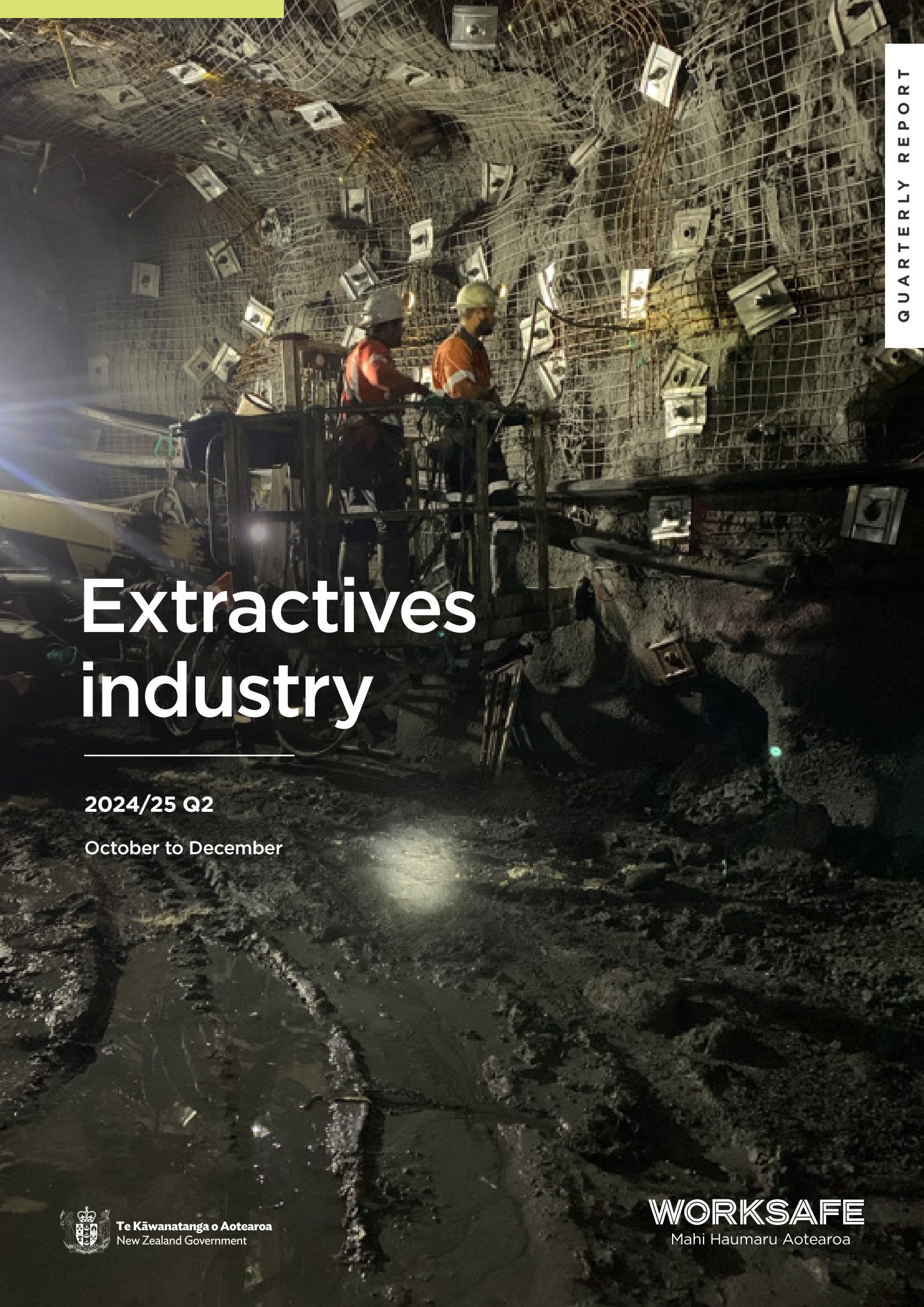
QUARTERLY REPORT



Extractives industry

2024/25 Q2

October to December

Te Kāwanatanga o Aotearoa
New Zealand Government

WORKSAFE
Mahi Haumaru Aotearoa

About this report

This quarterly health and safety performance report has been prepared by WorkSafe New Zealand to provide extractives-specific information to mining, tunnelling and quarrying operations in New Zealand.

The information is derived from a variety of sources but the predominant source is industry itself, through notifiable incident reporting and quarterly reporting.

The report also contains information on the activities of the regulator, as well as commentary on industry performance and focus areas for regulation.

Operators should use the information presented in this report to assist them in improving safety management systems and undertaking risk assessments at their sites.

Foreword

Our mission is to transform New Zealand's health and safety performance towards world-class. To achieve this requires the commitment not just of WorkSafe New Zealand, but of businesses, workers and a wide range of other players in the health and safety system.

On 18 July 2025 the final changes to the Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016 will take effect. The final changes are limited in scope, only affecting the appointment of roles at a metalliferous mining operation. In effect recognising the metalliferous mine manager CoC instead of the tunnel manager CoC at an underground metalliferous operation. (There is some practical advice about this in section 1.3 Developing Competence of this report for those impacted).

What I wish to comment on in this report is my reflection of the review process and the time taken to make the changes.

I now realise that any changes to the legislation can take some time, especially if the changes are significant and have material implications for many operators.

I started in this Chief Inspector role in 2018, and almost immediately participated in a consultation process facilitated by MBIE to review and revise the existing regulations.

The incoming government had prioritised the review of the Mining Regulations and this was announced several weeks after I started!

The regulation review process involved many stakeholders and the processing of many public submissions.

These different opinions and suggestions were all considered and discussed by the various groups and a position on every issue was agreed, if not by general consensus, then on some occasions with strong majority agreement.

Once agreed, the drafters finalised the words and made important judgements about transitional arrangements, deciding that the regulations would in fact be updated in 4 separate tranches of changes. Part 1 came into force on 18 July 2022, Part 2 on 18 July 2023, Part 3 on 18 July 2024 and the final tranche (Part 4) will come into force on 18 July 2025.

For many this will seem to be a very prolonged period of change, but for others the changes will seem to be significant and requirements becoming increasingly prescribed too quickly.

There is probably not a perfect timeframe.

I can speak for the Board of Examiners (BoE), who have been extremely busy for four years staying in compliance with regular changes to competency requirements for the Extractives Industry.

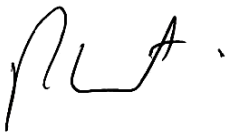
Regulations can change but it was the responsibility of stakeholders like the BoE and Inspectors to make the corresponding changes to their systems to help operators implement the regulatory intentions at the coal face.

During the coming months, our focus will be on identifying the areas that have been well adopted and the areas where more work is required.

We scheduled regulatory compliance inspections at 25 quarrying and alluvial mining operations this year (July 2024 – June 2025) to determine how well the operators have met the new requirements. We realised that the quarries and alluvial mines had more regulatory amendments affecting them than other sectors.

It is our intention to share our findings with Industry once we have completed the inspections and consolidated all our findings – we are already seeing patterns of common gaps in implementation emerging. Understanding of principal hazards is one area that has already been highlighted.

We will update our Inspectors with training material and write explanations in publications like the quarterly report to assist Industry.



Paul Hunt
Chief Inspector Extractives

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1.0
Industry profile

IN THIS SECTION:

1.1 Operations

3

Metalliferous opencast mines

21

Coal opencast mines
Includes 2 mine in care and maintenance

8

Metalliferous underground mines
Includes 1 mine under care and maintenance and 2 operating tourist mines

1

Coal underground mines
Includes 1 tourist mine under care and maintenance

8

Tunnels
Does not include tunnels that notified commencement but did not begin operating in the quarter

3

Coal exploration
Three operational coal exploration projects

74

Alluvial mines
Number of mines that have been verified (59) or have notified of an Appointed Manager to WorkSafe (15)

Includes 2 iron sands mines

1,018

Quarries
Number of quarries that have been verified (866) or have notified of an Appointed Manager to WorkSafe but not yet verified (152)

The extractives industry is to understand its makeup in terms of the number and scale of operations and the number and competency of workers involved.

There were 1,136 active operations in New Zealand as at the end of December 2024.

Active mining operations include those that are operating, intermittently operating, under care and maintenance, or undertaking rehabilitation, as well as tourist mines. Active quarries and alluvial mine numbers include operations that have been verified as actively or intermittently operating (that is, visited by WorkSafe), or have notified WorkSafe of an appointed manager.

1.2 People

816

Metalliferous opencast mines
594 FTEs employed by mine operators and 222 FTEs employed by contractors

872

Coal opencast mines
718 FTEs employed by mine operators and 155 FTEs employed by contractors

665

Metalliferous underground mines
519 FTEs employed by mine operators and 146 FTEs employed by contractors

0

Coal underground mines
0 FTEs employed by mine operators and 0 FTEs employed by contractors

276

Tunnels
204 FTEs employed by mine operators and 72 FTEs employed by contractors

2

Coal exploration
9 workers employed by mine operators and 4 workers employed by contractors

622

Alluvial mines
Number of workers is known for 52 of the 74 alluvial mines that are verified and/or have notified of an Appointed Manager. The total number of workers has been extrapolated for the remaining 22 operations

3,253

Quarries
Number of workers is known for 795 of the 1,018 quarries that are verified and/or have notified of an Appointed Manager. The total number of workers has been extrapolated for the remaining 223 operations

There were 6,474 Extractives FTEs in New Zealand as at the end of December 2024. The numbers of workers will also vary from quarter to quarter. Changes in the number of quarry and alluvial mine workers largely reflect the changes in the number of active operations verified by inspectors. Part of those verifications includes determining the number of workers at each operation.

Note: Typically >95% of mining operations and tunnelling operations submit quarterly reports to WorkSafe, and the numbers of workers are reported directly from these figures.

Quarterly reports were provided by 17 alluvial mining operations (23%) and 205 active quarries (20%). That is the reason for the significant difference between the extrapolated numbers of workers and the actual number of workers reported for these sectors in Figure 2. WorkSafe will continue to extrapolate numbers of workers for quarries and alluvial mines until the reporting percentage has improved.

Figure 1 shows the total hours worked in Q2 2024/25, reported to WorkSafe in the quarterly reporting. The hours are separated into Employees and Contractors.

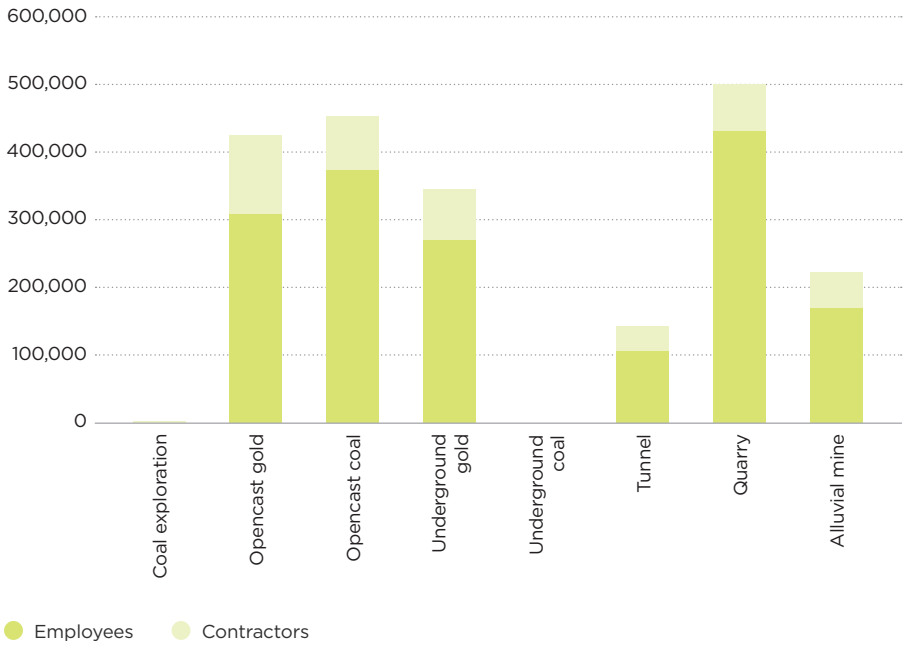

FIGURE 1:
Total hours worked by sector 2024/25 Q2

Figure 2 shows the number of Full Time Equivalents (FTEs) calculated from total hours worked that were reported to WorkSafe in quarterly reports for Q2 2024/25. The hours are separated into Employees and Contractors.

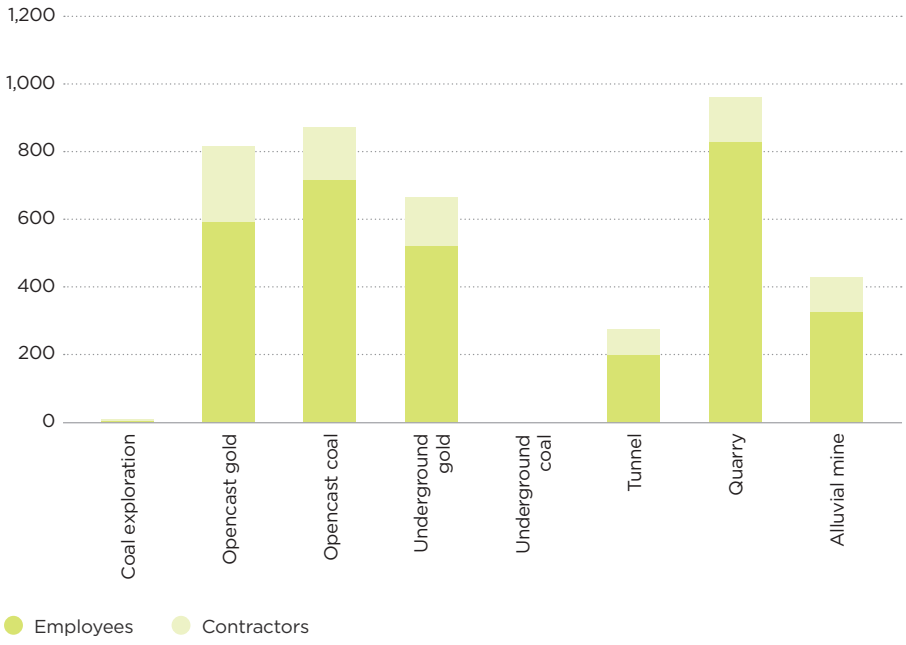

FIGURE 2:
Number of FTEs by sector 2024/25 Q2

1.3 Developing competence

WorkSafe has responsibility for setting competency standards in the Extractives Industry. Improving the competence of the people in the industry is one of the most important aspects of improving health and safety performance. WorkSafe appoints the New Zealand Mining Board of Examiners (BoE) to recommend competency requirements, conduct oral examinations and to issue, renew, cancel or suspend Certificates of Competence (CoCs).

IMPORTANT:

BoE decision on process to recognise existing A-grade and B-grade tunnel manager CoCs

With the final changes to the regulations taking effect on 18 July 2025, anybody working in a metalliferous mine and using either an A-grade or B-grade tunnel manager CoC should have replaced it with the relevant A-grade or B-grade metalliferous mine manager CoC.

When the separation of the tunnel manager CoC into a tunnel manager and metalliferous mine manager CoC was introduced, it was agreed:

- all existing A-grade or B-grade tunnel manager CoC holders would be recognised as already holding either an A-grade or B-grade metalliferous mine manager CoC
- that anybody who needed to swap their tunnel manager CoC to a metalliferous mine manager CoC would not be disadvantaged (Paying for new CoC or redoing any examinations etc)
- that the transition would be made as simple as possible, and going forward those that had qualified under the old 'tunnel only CoC regime' could choose at renewal whether to continue to hold either a:
  1. tunnel manager CoC, or
  2. metalliferous mine manager CoC, or
  3. both a tunnel manager CoC and a metalliferous mine manager CoC
- the current group of tunnel manager CoC holders is a closed group. New applicants are now required to choose to sit either a tunnel manager CoC or a metalliferous mine manager CoC, and going forward the tunnel manager and metalliferous mine manager CoCs will require a separate application and a separate oral examination.

The BoE advise that CoC holders **do not need to do anything** until they require renewal of their existing tunnel manager CoC.

The BoE will recognise all the existing tunnel manager CoC holders as holding both CoCs. This will be reflected in the CoC register, and Inspectors will be able to reference this if required.

The BoE will send a letter to all the current tunnel manager CoC holders to acknowledge this decision; this will be a suitable reference if required by the CoC holder. The BoE will also confirm this to anybody enquiring with the permission of the CoC holder, if this is ever required.

At renewal of the current tunnel manager CoC, the following options will be provided:

1. renew as either a tunnel manager CoC or a metalliferous mine CoC – cost of one renewal
2. renew as two separate CoCs – One tunnel manager CoC and one metalliferous mine manager CoC – cost of two renewals.

This option will be explained to the relevant CoC holders at the time of renewal.

If anybody is unclear about this process, please contact the BoE Secretariat.

Table 1 provides a summary of oral exams conducted during the quarter.

TOTAL NUMBER OF ORAL EXAMS HELD Q2 OCT–DEC 24	TOTAL PASSES	SUCCESS %
11	11	100

TABLE 1: Oral exams conducted

Table 2 provides a summary of all CoCs issued during the quarter and the current number of CoCs in circulation at the end of Q2 2024/25.
Note: We no longer report Life Time CoCs.

COC TYPE	TOTAL COCs RENEWED Q2 Oct–Dec 2024	TOTAL NEW COCs ISSUED Q2 Oct–Dec 2024	TOTAL NUMBER OF CURRENT COCs
A Grade Quarry Manager	5	5	316
B Grade Quarry Manager	8	4	433
A Grade Opencast Coal Mine Manager	0	0	60
B Grade Opencast Coal Mine Manager	0	0	51
A Grade Tunnel Manager	1	1	42
B Grade Tunnel Manager	0	0	81
Site Senior Executive	1	1	57
First Class Coal Mine Manager	0	0	15
First Class Mine Manager	2	0	21
Coal Mine Deputy	0	0	30
Coal Mine Under viewer	0	0	20
Mechanical Superintendent	5	0	22
Electrical Superintendent	0	0	20
Ventilation Officer	0	1	5
Mine Surveyor	0	0	13
Site Specific	0	0	5
Winding Engine Driver	0	1	1
A-grade alluvial mine manager	0	1	1
B-grade alluvial mine manager	0	0	0
Total	**22**	**14**	**1,193**

TABLE 2: Certificates of Competence issued and in circulation

2.0 Health and safety performance

IN THIS SECTION:

2.1 Notifiable events

For all extractive operations, notifiable events are required to be reported to WorkSafe under S23(1), S24(1) and S25(1) of the Act, and under Schedule 5 of the Regulations. Notifiable events include any notifiable incidents, notifiable injuries or illnesses, or fatalities.

The tables below show the number of notifiable events and the number of operations that notified events for the previous five years and for Q1 and Q2 of 2024/25 for mines and tunnels (Table 3) and quarries and alluvial mines (Table 4).

MINES AND TUNNELS	2019/20 QUARTERLY AVERAGE	2020/21 QUARTERLY AVERAGE	2021/22 QUARTERLY AVERAGE	2022/23 QUARTERLY AVERAGE	2023/24 QUARTERLY AVERAGE	2024/25 Q1	2024/25 Q2
Number of notifiable events	20	18	20	21	22	11	24
Number of operations that notified events	11	9	11	10	11	7	9

TABLE 3: Mines and tunnels – notifiable events and operations that notified events

QUARRIES AND ALLUVIAL MINES	2019/20 QUARTERLY AVERAGE	2020/21 QUARTERLY AVERAGE	2021/22 QUARTERLY AVERAGE	2022/23 QUARTERLY AVERAGE	2023/24 QUARTERLY AVERAGE	2024/25 Q1	2024/25 Q2
Number of notifiable events	18	16	14	17	18	24	18
Number of operations that notified events	15	12	13	15	21	21	16

TABLE 4: Quarries and alluvial mines – notifiable events and operations that notified events

Figure 3 shows the number of notifiable events reported to WorkSafe by sector from January 2023 to December 2024.

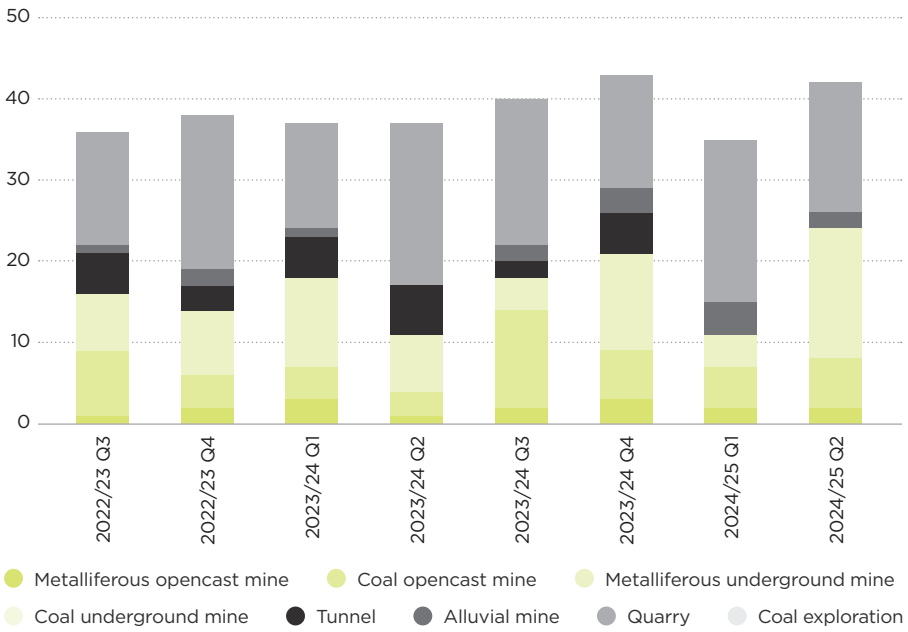

FIGURE 3: Notifiable events by sector

2.2 Injuries

Additional information about injuries is reported to WorkSafe in the form of Quarterly Reports and Records of Notifiable Events under Schedules 6 and 8 of the Regulations.

Figure 4 shows the number of injuries by injury type reported to WorkSafe from December 2021 to December 2024. The graph also shows the rolling 12-month average for the Total Recordable Injury Frequency Rate (TRIFR), the rate of recordable injuries that occurred per million hours worked. The current rolling 12-month average TRIFR is 2.7. Rates have fluctuated over past two years without any clear trend.

While TRIFR is not the only measure indicating the health of the industry, it is a useful indicator of how workers are being injured and should be interpreted in conjunction with other data such as notifiable event information.

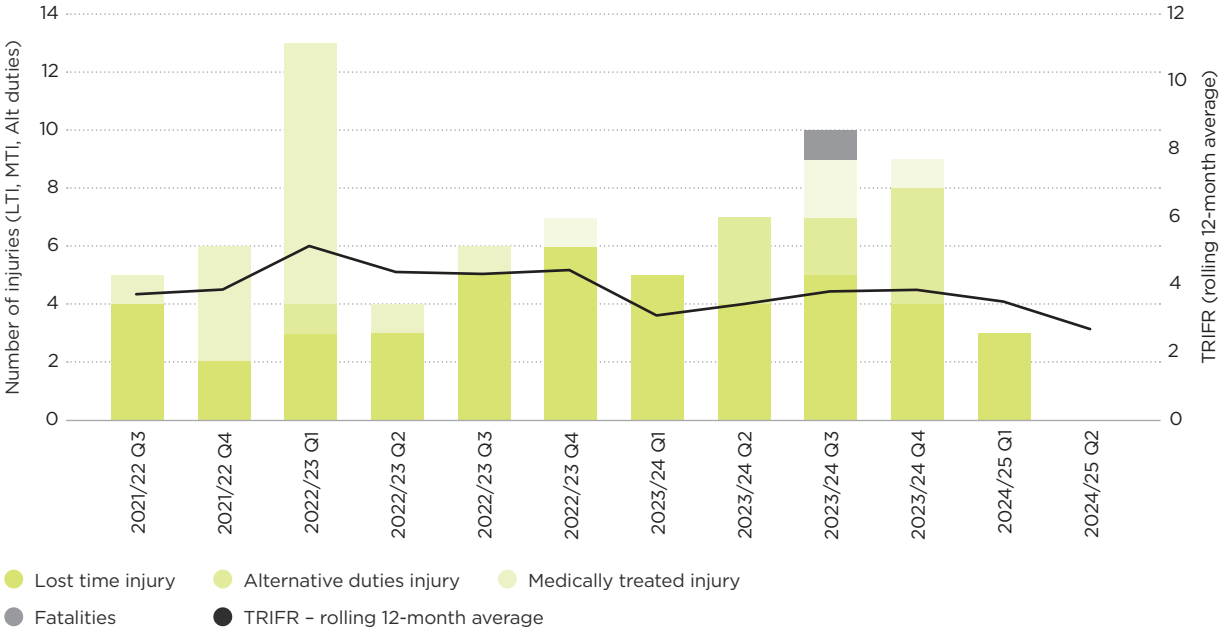

FIGURE 4: TRIFR

The following injury definitions are taken from Schedule 8 of the Regulations:

- **Lost-time injuries** are events that involved injury or illness of a mine worker that resulted in the inability of the worker to work for one day or more (not including the day of the event) during the reporting period (whether the worker is rostered on that day or not).
- **Alternative duties injuries** are events that involved injury or illness of a mine worker that resulted in the worker being on alternative duties during the reporting period.
- **Medical treatment injuries** are work-related injuries to mine workers that required medical treatment during the reporting period but did not require a day lost from work or alternative duties (other than the day of the event).

2.3 Types of events

Figure 5 shows the notifiable event categories for events notified to WorkSafe in the previous 12 months. The data shows that 46% of notifiable events in the past 12 months have occurred in relation to vehicles and plant (32%), and fire, ignition, explosion or smoke (14%). These two categories are broken down in more detail in the following section. A further 11% of notifiable events in the past 12 months occurred in relation to ground, geotechnical and other structural failures.

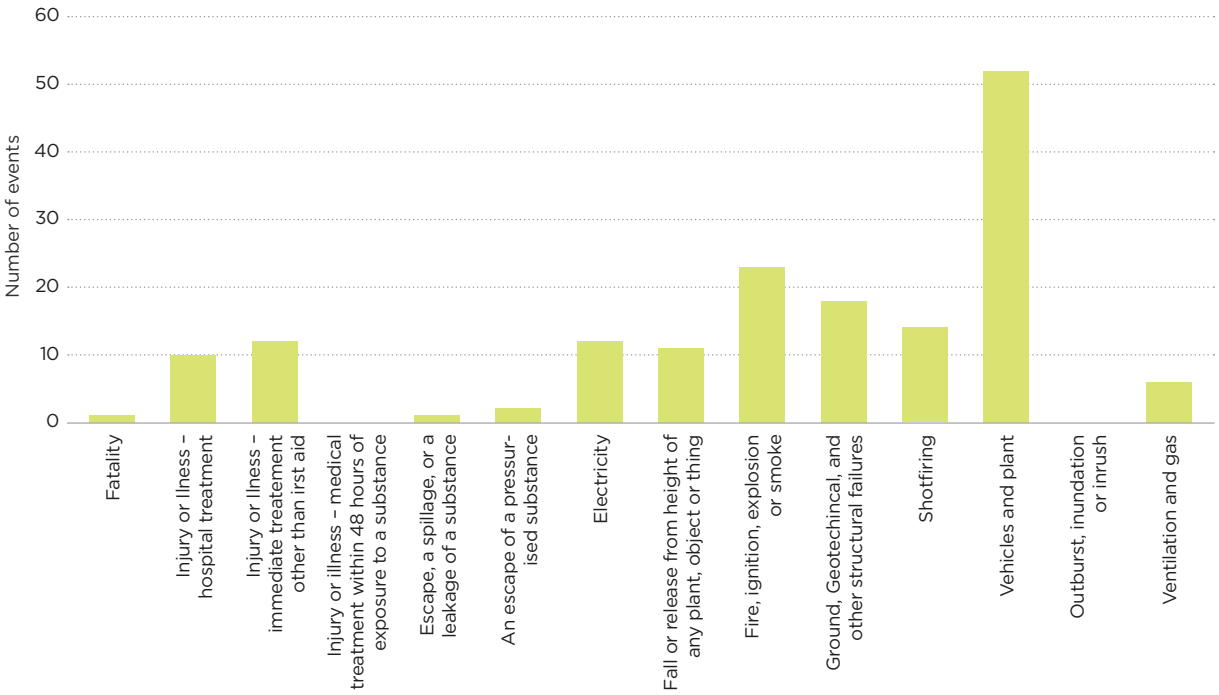

FIGURE 5: Notifiable event categories for the previous 12 months

2.4 Extractives sector focus areas

Where there is a high frequency of notifiable events in any Schedule 5 category, we have broken these events down in more detail to identify key focus areas. We will target our inspections to ensure that operators have adequate controls in place to address these risks.

Figures 6 and 7 break down the two largest notifiable event categories in the past 12 months into the corresponding Schedule 5 sub-categories. The data shows that for notifiable events related to fire, ignition, explosion or smoke, 96% involve fires on plant, mobile plant or in buildings associated with mining or tunnelling activities, and 4% involves the outbreak of a fire on the surface or underground. The vehicle and plant-related notifiable events involve collision of mobile plant with other plant (17%), overturning of mobile plant (53%), breach of a safety berm or windrow (9%), and unintended movement or brake failure (21%).

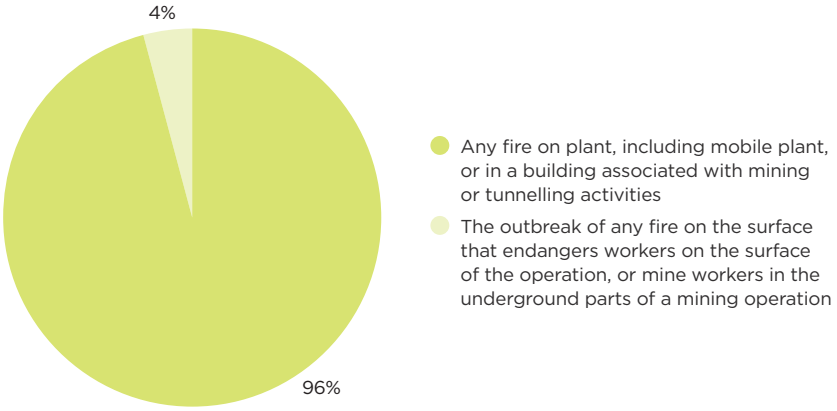

FIGURE 6:
Fire, ignition, explosion or smoke-related notifiable event sub-categories

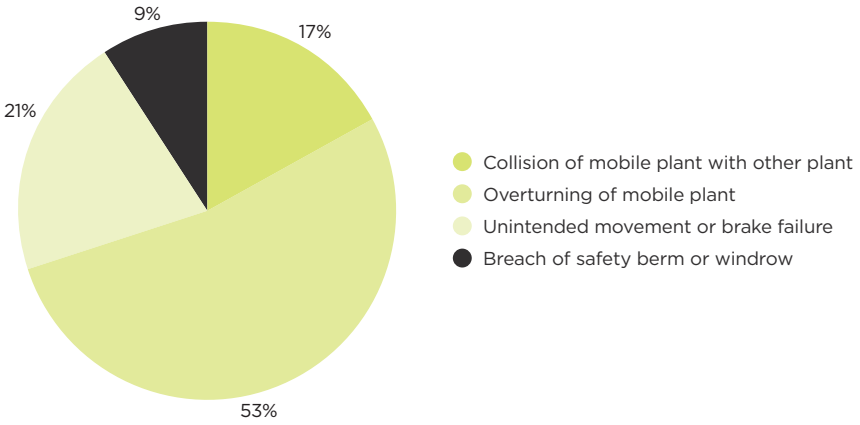

FIGURE 7:
Vehicles and plant-related notifiable event sub-categories

Consistency of reporting

Mining and tunneling data are received from a high proportion of those operations and are considered to be accurate. Notifiable events were reported by 20% of operations in the past quarter, and quarterly reports were submitted by 100% of operations this quarter.

Quarrying and alluvial mining data are received from a much lower proportion of those operations and are likely to be less accurate. Notifiable events were reported by just 1% of operations in the past quarter. Quarterly reports were provided by 17 active alluvial mining operations (23%) and 205 active quarries (20%).

2.5 Regulator comments

At all Extractive sites, operators are expected to have run comprehensive hazard and risk identification processes and to have developed controls to ensure that these risks are addressed.

We have previously reminded operators about the obligations to ensure that risks are first eliminated, and if this is not possible to ensure that the highest order of controls that are reasonably practicable are implemented.

The regulator also has a view that the identification of 'critical controls' is an important aspect of risk control.

What is a control?

Controls are an act, object (engineered) or system (combination of act and object) that:

- either prevent or mitigate the unwanted event
- must be clearly defined with measurable performance criteria.

What is a critical control?

A simple definition of a critical control is:

> 'A control that is crucial to preventing the event or mitigating the consequences of a **material unwanted event** (MUE). The absence or failure of a critical control would significantly increase the risk despite the existence of the other controls.

Note that the definition includes a reference to MUE. This is important as all risks are not equal and many sites will have hundreds of identified risks and potentially thousands of controls. A critical control should always be related to prevention of a MUE.

A MUE is defined as:

> 'An unwanted event where the potential or real consequence exceeds a threshold defined by the company as warranting the highest level of attention (for example, a high-level health or safety impact).'

In other words, it is a control that you are very reliant on for the safe operation of your site and if it is not in place for some reason, then the risk at your site has significantly increased and a very serious incident could occur.

Management of critical controls can be considered to include the following steps (Figure 8):

PLANNING

1. Develop a plan that describes the scope of the operation (or Project), including what is done on site (or needs to be done) by whom and the timescales.
2. Identify MUEs that need to be managed. Based on the company risk thresholds – Linked to Principal Hazard Identification.
3. Identify controls for MUEs, both existing controls and possible new controls. Prepare a bowtie diagram.
4. Identify/select the critical controls for the MUE. Should be of the highest order that is reasonably practicable.
5. Define the critical controls' objectives, performance requirements and how performance is verified in practice.
6. Develop a list of the owners for each MUE, critical control and verification activity. A verification and reporting plan is required to verify and report on the health of each control.

IMPLEMENTATION

7. Define MUE verification and reporting plans, and an implementation strategy based on site-specific requirements.
8. Implement verification activities and report on the process. Define and report on the status of each critical control.
9. Critical control and MUE owners are aware of critical control performance. If critical controls are underperforming or following an incident, investigate and take action to improve performance or remove critical status from controls.

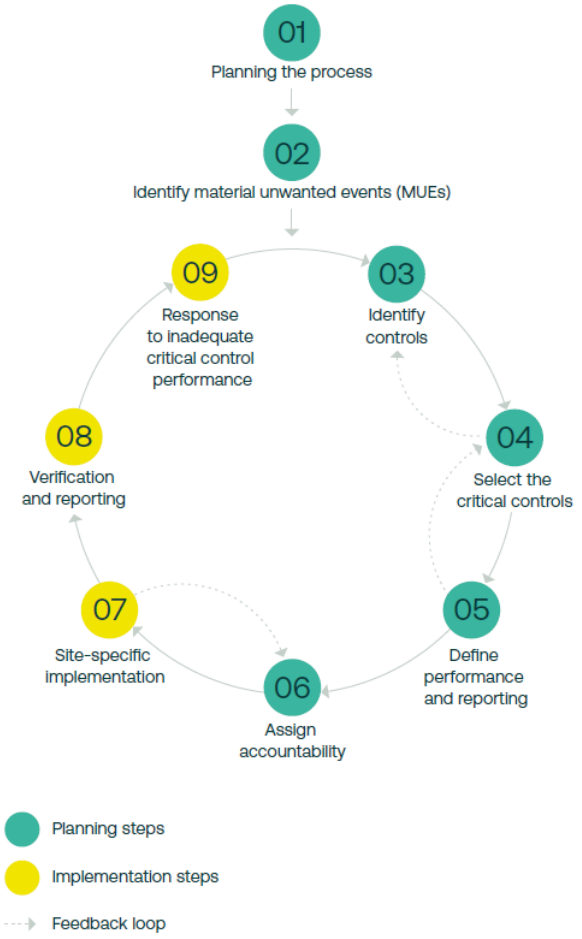

FIGURE 8:
Critical Control Management Process
Source: guidance_ccm-good-practice.pdf

WorkSafe expect that operators understand what controls are considered to be critical controls, and have programs in place, including inspection and maintenance, to ensure they are maintained. All critical controls should be reviewed on a regular basis, to ensure that technology advances or industry learnings can be considered to determine if other more effective controls have become available. Any failure or poor performance of critical controls must be investigated and understood to continuously improve the critical control management process.

The absence of accidents or incidents must not be taken as evidence that critical controls are working adequately. Where there is more than one control, a control may fail without any incident occurring because of redundancy in the controls. As a result, the verification process is important to detect controls that are not performing according to the specified requirements.

Site incident investigation methods should ensure that the investigation process always includes identification of any relevant or related critical controls and determines their status and performance in any event. Even if the event is not determined to be MUE, reviewing the performance of the critical control is important.

Organisational leadership teams, including owners, board members, senior management and operational managers should all review critical control status and performance. The failure of any critical control should be communicated to the highest level of any organisation.

Any senior leader should ensure that they have adequate reporting on critical controls. It should be considered an essential part of their due diligence.

There is a significant amount of guidance published online about the processes that should be in place to ensure your operation has effective Critical Control Management.

2.6 High potential incidents

A high potential incident at a mine, quarry or tunnel is an event, or a series of events, that causes or has the potential to cause a significant adverse effect on the safety or health of a person.

High potential incidents – 2024/25 Q2

Table 5 provides a summary of high potential incidents notified to WorkSafe in Q2 2024/25. The summaries are an abridged version from the operator's notification report.

INCIDENT DATE	SUMMARY	CONSIDERATIONS
Oct 24	Ejector bin tipped over when reversing onto brown rock stockpile.	– Roads and vehicle operating areas – Tips, ponds and voids – Job planning – Risk assessment – Supervision – Training
Oct 24	The operator left the vehicle without applying the park brake.	– Risk assessment – Training
Oct 24	Service crew operators damaged a battery from a power tool. A while later the battery started to smoke and emit a small flame which was extinguished with a fire extinguisher.	– Fire or explosion – Training
Oct 24	Dump truck had been paddock dumping on an old road all day. As the dump truck was backing up to the tip off position the left-hand wheels rode up on a dumped load causing the tray to overturn. The dump truck looked to be backing around a slight corner which would have restricted the driver's visibility on the left-hand side.	– Roads and vehicle operating areas – Tips, ponds and voids – Job planning – Risk assessment – Supervision – Training
Oct 24	One mine worker had positioned an LV so that another mine worker could re-position the charmec charge vehicle into a location to start charge up operations. The first mine worker was having a drink of water at the back of the LV and the charmec has made contact with the LV whilst it was being re-positioned. Mine worker was temporarily caught between the two vehicles.	– Roads and vehicle operating areas – Mechanical – Job planning – Risk assessment – Supervision – Training
Oct 24	The operator was moving a screen back into place after cleaning it. On its way back into position the side belt support frame broke off and landed on the ground.	– Fall from height – Job planning – Risk assessment – Supervision – Training

INCIDENT DATE	SUMMARY	CONSIDERATIONS
Oct 24	Telehandler was removing a large frame containing a pod of emulsion from an insulated 20ft shipping container. As the frame was lifted and the telehandler reversed out, the frame caught onto an electrical conduit supplying one of the light fittings. This caused the wires to be pulled out of the fitting. They then arched to the metal shell of the container. This caused the 30mA electrical protection to operate and isolate power to the container.	– Electricity – Job planning – Risk assessment – Supervision – Training
Oct 24	Operator was driving along haul road when they drove too close to the inside bank making truck roll onto its side. No injuries to the operator.	– Roads and vehicle operating areas – Risk assessment – Supervision – Training
Oct 24	Water truck was shut down and being filled under fill point, when half full the weight in the tank was enough to allow the truck to roll 5m through the park brake. The truck came to a stop on flat ground without injury or damage. Potential existed for the operator to be in the line of fire during the uncontrolled movement.	– Mechanical – Job planning – Risk assessment – Supervision – Training
Oct 24	ADT was tipping off strippings when it started driving forward and the wheel sank and the bin tipped on its side. Cab remained upright.	– Roads and vehicle operating areas – Tips, ponds and voids – Job planning – Risk assessment – Supervision – Training
Nov 24	We are now using the I-Kon initiation system to fire hotshot blasts. The holes upon loading were connected to the system via a harness wire and all were confirmed as connected. Post the clearing run and before firing a final check was completed with the I-Kon system and there were two holes/errors identified. Blast crew then inspected the blast and found the two slumped holes. An attempt was made to find the I-kon connecting wire but this was unable to be found. As the shot is a hotshot and needs to be fired within 8 hours of loading, the shot was initiated with the two slumped holes not connected.	– Shotfiring – Risk assessment – Supervision – Training
Nov 24	Digging soft clay out of soft spot with 30-ton digger to then backfill and have struck underground power wires.	– Electricity – Underground services – Job planning – Risk assessment – Supervision – Training
Nov 24	A battery drill has fallen off the back of a ute. A haul truck driver has not seen the drill and ran over it. They noticed a flame in reversing camera behind the truck and has parked up and used a fire extinguisher to put the flame out.	– Fire or explosion – Training
Nov 24	A new door was being added, and builder was cutting in new doorway and cut through a live 240v cable. No electrical shock or injury occurred but the individual was exposed to the risk of electric shock.	– Electricity – Job planning – Risk assessment – Supervision – Training
Nov 24	Six 60mm marine grade cables were being removed in lengths of approximately 50m. Each cable had a 20m section of HDPE pipe to act as a sleeve and protect the cable from any damage. Contractor 1 was employed with their equipment to complete the lift along with Contractor 2 to support with prepping the cables for lifting. The cables were slung by the sleeve to prevent any damage to the cables. A choke was secured along with 3 half hitches between the choke and crane hook. A tail of approximately 5m was left to hang down from the crane hook to mitigate the risk of the cable slipping through the sleeve. Once the first cable was secured the crane began to lift the cable. When the cable was almost completely suspended the cable slipped out through the sleeve and dropped to the work area below. The cable fell across the back of a LV within the workplace and damaged the back end of the LV.	– Fall from height – Job planning – Risk assessment – Supervision – Training

INCIDENT DATE	SUMMARY	CONSIDERATIONS
Nov 24	Operator was moving a mobile screen and had parked their ute 20–30m away from the area well out of the way of the planned path of travel. Once moving the operator noticed the track was digging into the metal, clicking and grabbing. To ensure the track stayed on the machine the operator increased the angle of the turn, slowly navigating a wider gradual turn. The operator was not aware of the screens proximity to the ute on the new path as was focussed ensuring the track stayed put and could not see past the body of the screen. The screen collided with ute at slow speed and pushed against it. Operator then stopped the screen and reversed it back from the ute.	– Roads and vehicle operating areas – Job planning – Risk assessment – Supervision – Training
Nov 24	Dump tuck lost traction returning empty from the ROM, rear wheels lost traction and the tray slid around forcing the front of the truck into a windrow. No injury or damage.	– Roads and vehicle operating areas – Risk assessment – Supervision – Training
Nov 24	The loader operator was loading the bin of the screening plant when they smelt smoke. They were unsure where it came from, so they stopped the loader to inspect it. They couldn't see any smoke at the loader and headed over to inspect the screening plant. Making their way back to the loader they noticed some smoke coming from the loader engine bay. Soon after flames became visible and FENZ were notified. No injuries were sustained. An exclusion zone was established and the scene preserved.	– Fire or explosion – Emergency response – Mechanical – Training
Nov 24	A drill rig was tramming to workshop at 5:30am this morning, contacted overhead cable. Resulting in pulling both cable towers to the ground. The line was dead as from 2pm the workshop were undertaking maintenance work on the Shovel. Scene has been isolated and coned off. No one was injured in the incident.	– Electricity – Job planning – Risk assessment – Supervision – Training
Nov 24	A culvert pipe had popped up at the inlet end that goes through the ramp. To prevent the water building up on the inlet side of the culvert, an excavator was used to push the pipe back down and drain any water that had built up. Once drained the excavator attempted to remove material that had washed under the pipe holding it up. This was an attempt to push the pipe down further so waste coal weighs the pipe down and pack in around it. What was not evident was how saturated the ground was. It gave way on the right-hand track and tipped the excavator over.	– Ground or strata instability – Job planning – Risk assessment – Supervision – Training
Nov 24	A worker has started a one-thousand-volt submersible electric pump and has noticed an occurrence of electrical arcing in the vicinity of where the electrical supply cable connects to the pump.	– Electricity – Supervision – Training
Nov 24	Worker 1 went to get the Worker 2 to go to smoko and found them lying in the bottom of the chip bin in full welding gear. When Worker 2 was slow to respond Worker 1 climbed into the hopper and removed Worker 2's welding gear and helped them out of the hopper. During this Worker 2 said they had fallen in the hopper – slip marks indicate where this has happened. Back at the workshop Worker 2 was given water and monitored for about 10 minutes as they appeared dazed. Heat fatigue was suspected due to all of the welding gear they were wearing. When it was determined that Worker 2 may have suffered a head knock they were taken to Accident and Emergency for a check. Doctors ordered a CT scan. Concussion was diagnosed, put on light duties with no lost time.	– Job planning – Risk assessment – Supervision – Training
Nov 24	A fully loaded dump truck was descending a haul road when it veered too far to the left and the wheels tracked into the drain. The dump truck then stopped against the bund.	– Roads and vehicle operating areas – Risk assessment – Supervision – Training
Nov 24	Individual was bogging a development heading and working to remove a toe at the face. Individual started to feel lightheaded and nausea, they retreated to fresh air.	– Air quality – Ventilation – Risk assessment – Supervision – Training

INCIDENT DATE	SUMMARY	CONSIDERATIONS
Nov 24	Operator taken eyes off road for a brief period, has veered to the left gone up an embankment and tipped vehicle on side.	– Roads and vehicle operating areas – Risk assessment – Supervision – Training
Dec 24	Truck with trailer, was reversing, uneven ground, trailer has rolled onto truck deck, approximately 45-degree angle.	– Roads and vehicle operating areas – Risk assessment – Supervision – Training
Dec 24	Loader reversed into a parked dump truck.	– Roads and vehicle operating areas – Risk assessment – Supervision – Training
Dec 24	While travelling down a ramp the operator of a haul truck was not paying attention, and they took the corner at the bottom of the ramp too wide and connected with the windrow.	– Roads and vehicle operating areas – Risk assessment – Supervision – Training
Dec 24	Un-fired Detonator and Primer identified on ROM Pad, hauled from face to Run of Mine (ROM) Pad.	– Shotfiring – Risk assessment – Supervision – Training
Dec 24	Explosives vehicle being escorted to the magazine with a load of pentex primers in the back of utility. Canopy door has come open allowing 4 boxes of pentex to fall out onto ground. Another light vehicle following has picked the boxes up, told explosives vehicle to stop. When regrouped the road was inspected and a full stock take of boosters was done. None were missing. All boosters locked away in magazine.	– Shotfiring – Risk assessment – Supervision – Training
Dec 24	Poor connection of initiating Detonator to Trunk Cord has left the tail of the cord post face blast, which was identified on re-entry.	– Shotfiring – Risk assessment – Supervision – Training
Dec 24	Tail of Trunk cord found at blasted face on mesh. Incorrect hookup of initiating detonator to trunk cord.	– Shotfiring – Risk assessment – Supervision – Training
Dec 24	An individual came across the fall of ground as they were travelling underground; material blocking decline access, notified shift supervisor immediately. Area secured.	– Ground or strata instability – Workplace inspections – Risk assessment – Supervision – Training
Dec 24	We had a tiphead failure at our site. The bulldozer was pushing material towards the tip face, when a failure at the toe of the tipface slid out into the pond. The dozer was not anywhere near the tip edge at the time. The dredge was operating approximately 50m from the final edge of the slump. Work was ceased straight away, site assessed and remedied. The material being tipped at the face was wet and the pond floor was covered in a clay silt sediment. Corrective actions to prevent this from happening in the future, Identify the material tipping in future. Use dredge tailings at the toe as/if required. Bench if/as required.	– Ground or strata instability – Tips, ponds and voids – Risk assessment – Supervision – Training

INCIDENT DATE	SUMMARY	CONSIDERATIONS
Dec 24	Extension of the 11kV network. Work area was isolated in the morning so additional poles could be installed in the vicinity of the existing network. Access permit issued and work commenced. Temporary jumpers were installed between the existing network and the new section of line to help contractors ensure the correct configuration could be achieved later when the line was permanently connected. Once new poles had been fit off the access permit was returned and switching started to return the network to service. As per the switching order an air brake switch was closed followed by closing an auto re-closer. When the auto re-closer energised the line an arc flash was observed at one of the new poles, this tripped the supply and then it re-closed causing a second flash. The network was isolated from the main substation and the work area made safe. The sparks caused some small spot fires at the base of the pole and some superficial burn marks to the pole. Once the power was isolated the area was hosed down. Initial investigation indicates that the temporary jumpers had been left in place which has livened the new section of line. Tails left at the last pole have shorted when livened. No personnel were in the vacuity of the new pole when it was livened. No Injuries reported.	– Electricity – Job planning – Risk assessment – Supervision – Training

TABLE 5: High potential incidents – 2024/25 Q2

Table 6 and Figure 9 shows the number of high potential incidents per quarter during the last two years for all extractives operations.

QUARTER	Q3 JAN-MAR 2023	Q4 APR-JUN 2023	Q1 JUL-SEP 2023	Q2 OCT-DEC 2023	Q3 JAN-MAR 2024	Q4 APR-JUN 2024	Q1 JUL-SEP 2024	Q2 OCT-DEC 2024	TOTAL PREVIOUS 12 MONTHS
Number of high potential incidents	22	21	24	22	25	29	27	35	**116**

TABLE 6: High potential incidents per quarter

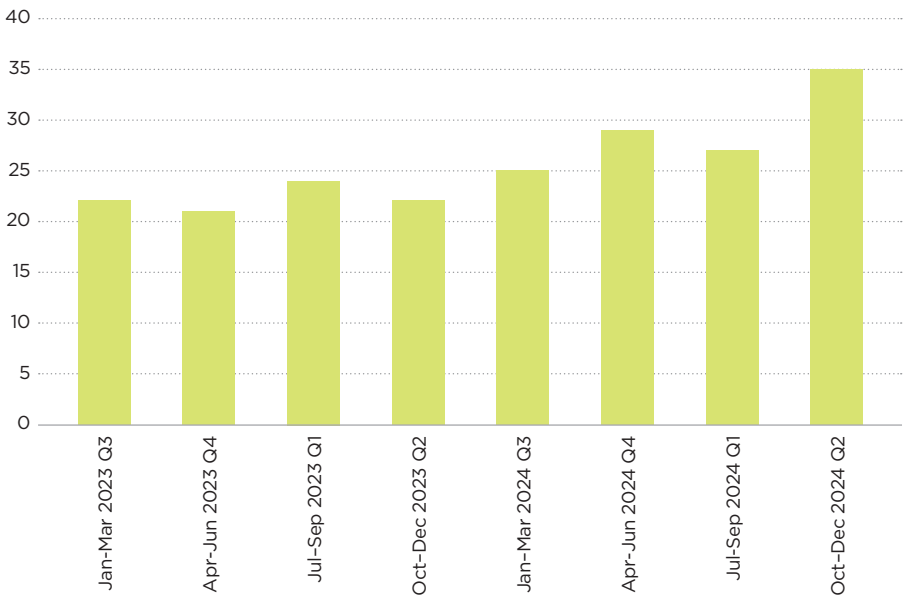

FIGURE 9: High potential incidents per quarter

2.7 High potential incidents – investigation outcomes

High potential incident case study – fall from height

Nov 24	Worker 1 went to get the Worker 2 to go to smoko and found them lying in the bottom of the chip bin in full welding gear. When Worker 2 was slow to respond Worker 1 climbed into the hopper and removed Worker 2's welding gear and helped them out of the hopper. During this Worker 2 said they had fallen in the hopper – slip marks indicate where this has happened. Back at the workshop Worker 2 was given water and monitored for about 10 minutes as they appeared dazed. Heat fatigue was suspected due to all of the welding gear they were wearing. When it was determined that Worker 2 may have suffered a head knock they were taken to Accident and Emergency for a check. Doctors ordered a CT scan. Concussion was diagnosed, put on light duties with no lost time.

TABLE 7: High potential incident – investigation outcomes case study

THE INCIDENT

The hopper-chip feed bin is 1.6–1.8m in height above the loading ramp and 2.0–2.4m deep. Access to the hopper was via a 1.8m 5-step stepladder. It is understood that Worker 1 intended to repair a hole on the upper edge of the hopper; the work was not part of the day's work plan. At 10.00am Worker 2 went to get Worker 1 to go to smoko and found them lying in the bottom of the chip bin in full welding gear. When Worker 1 was slow to respond Worker 2 climbed into the hopper, removed the welding gear and helped them out of the hopper. Worker 1 said that they had fallen into the hopper – slip marks indicate where this has happened. Back at the workshop Worker 1 was given water and monitored for about 10 minutes as they appeared dazed. Heat fatigue was suspected due to all the welding gear he was wearing. When it was determined that Worker 1 may have suffered a head knock, they were taken to Accident and Emergency for a check. Doctors ordered a CT scan. Concussion was diagnosed, and Worker 1 was put on light duties with no lost time. From Worker 1's statement they report they slipped while trying to free a caught welding belt and have slipped and fallen back bumping their head on the bin side before sliding down in the hopper.

FINDINGS AND LEARNINGS FROM THE PCBU INVESTIGATION

Aggregate bins are defined as a confined space in company risk registers. Worker 1's work plan was to complete the repair from the top edge of the hopper which created a fall risk. The risk was not mitigated.

The current SOP needs to be reviewed to provide clarity and re-enforce the expectation that safe ingress and egresses are installed prior to work starting inside any part of the aggregate bin.

Key issues identified during the investigation

- The worker states that they felt their work method was safe however a fall risk was present. The work method decision was completed in isolation, that is the method was not discussed with other team members prior to starting.
- Inadequate fall protection due to the task work method selected. Full welding PPE is bulky and hot to work in. Fatigue as a contributing factor could not be ruled out.
- The SOP needs to clearly specify the need and installation method of providing safe entry and exit from even small hoopers. The confined space entry procedure already allows for SOPs to control the entry requirements.

FIGURE 10:
Incident scene

REGULATOR COMMENTS AND RECOMMENDATIONS

Is a ladder the right tool for carrying out your job safely?

Ladders are primarily a means of access to carry out light tasks that are of short duration, for example changing a light bulb or touching up paint. They do not offer any protection from a fall.

Consider control measures when selecting the best way to work at height.

- Eliminate the chances of a fall by doing as much preparation work as possible on the ground.
- Minimise the risk of a fall by taking actions to prevent it. For example, isolate the worker from the risk by using scaffolds and edge protection.

A person conducting a business or undertaking must seek the views of their workers and their representatives when working out how to deal with work risks. Workers can provide technical and operational knowledge on identifying, assessing and eliminating/minimising risks

Planning a safe approach to working at height

Start by planning a safe approach. Too many falls from height are caused by a failure to plan and organise work properly.

Planning safe working at height means:

- identifying the hazards
- assessing the risk
- identify and implement controls
- monitoring your approach
- documenting your approach.

1. Identify Hazards

   Identify any hazards of working at height where someone could fall.
   Four ways of identifying hazards are:

   - physical inspections – walk around the workplace using a checklist to identify and manage hazards
   - task analysis – identify the hazards involved in each task of the job
   - process analysis – identify hazards at each stage of the production or service delivery process
   - analysis of accident investigation – identify hazards and causal factors from investigations involving similar types of work.

2. Assess the risk

   To identify and assess the risks arising from your work hazards think about:

   - who might be exposed to the hazard
   - what the potential consequences of exposure to the hazard are (for example, what severity of injuries could result, could people be killed)
   - how likely the consequences are (for example, very likely, likely or unlikely under usual business conditions).

   Seek the views of your workers and their representatives when assessing work risks. Your workers will have operational day-to-day knowledge that will be invaluable when assessing work risks.

3. Identify and implement controls

   Select the best work method to eliminate or minimise (in that order) the risk of the fall from height hazard.

   Provide additional training and instruction to keep people safe when working at height.

   Effort is in proportion to risk – the greater the risk, the greater the controls. But remember, doing nothing is not an option.

   Eliminate the risk of working at height where reasonably practicable, for example, use long-handled tools from ground level or build structures at ground level and lift into position when finished.

   If it is not reasonably practicable to eliminate fall from height risks then you must minimise risks to health and safety, so far as is reasonably practicable. For example, isolate workers from the hazard by using use edge protection or using a guardrailed work platform (such as scaffold or elevating work platforms).

4. Monitor your approach to working at height safely

   Constantly assess your approach to ensure it is fit for purpose.

   This includes:

   - regular inspections of the effectiveness of control measures
   - discussing the control measures at toolbox talks and site meetings
   - discussing the control measures with clients, contractors, sub-contractors and workers
   - actively supervising the work.

3.0 Regulatory insights

IN THIS SECTION:

3.1 Notifiable events

What we have observed

- Some notifiable events get reported to WorkSafe days, or even weeks, late.
- Several notifiable events that occur do not have the site of the incident preserved (scene frozen).

What is a notifiable event?

This is defined in Section 25 of the Health and Safety at Work Act 2015:

> **25 Meaning of notifiable event**
>
> In this Act, unless the context otherwise requires, a notifiable event means any of the following events that arise from work:
>
> a. the death of a person; or
>
> b. a notifiable injury or illness; or
>
> c. a notifiable incident.

Notifiable injuries

These are listed in Section 23 of HSWA.

They include:

- an injury or illness that requires, or would usually require, the person to be admitted to a hospital for immediate treatment
- injuries or illnesses that require the person to have immediate treatment (other than first aid), for example, the amputation of any part of the body, a serious head injury, a serious burn, serious lacerations

The WorkSafe website provides useful guidance on what would be considered a notifiable injury. For example:

Serious lacerations that require immediate treatment (other than first aid) includes:

- serious deep cuts that cause muscle, tendon, nerve or blood vessel damage, or permanent impairment
- tears to flesh or tissue – this may include stitching or other treatment to prevent loss of blood or bodily function and/or the wound getting infected.

Does not include:

- superficial cuts treatable by cleaning the wound and applying a dressing
- minor tears to flesh or tissue.

Notifiable incidents

These are listed in Section 24 of HSWA.

Section 24(1)(m) states that any other incident declared by regulations to be a notifiable incident are also included. For the Extractive industry there is an additional list of incidents that have been declared to be notifiable incidents – Schedule 5 of the Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016.

Examples of notifiable incidents listed in Section 24 of HSWA include:

- an escape of a pressurised substance
- an electric shock
- the fall or release from a height of any plant, substance, or thing.

Examples of notifiable incidents specified in Schedule 5 include:

- any fire on plant, including mobile plant
- any ground movement of a surface slope, face, bench, or haul road that has the potential to cause injury or death
- any collision of mobile plant with other plant, including mobile plant, with a potential to cause serious injury
- any overturning of mobile plant, regardless of which part of the mobile plant is against the ground when it comes to rest
- any incident in which any part of an explosive charge, after initiation, fails to completely detonate (misfires)
- unintended contact of any mobile plant with conductors.

HSWA Section 55 – Duty to preserve sites

A PCBU who manages or controls a workplace at which a notifiable event has occurred must take all reasonable steps to ensure that the site where the event occurred is not disturbed until authorised by an inspector.

There are some exceptions listed in the Act:

You may take any action:

- to assist an injured person
- to remove a deceased person
- that is essential to make the site safe or to minimize the risk of a further notifiable event; or
- that is done by, or under the direction of, a constable acting in execution of his or her duties; or
- for which an inspector or the regulator has given permission.

Preserving the site – What should you do?

To make sure that the site is not disturbed:

- the work set-up should not be changed
- any plant, substances or other things involved in the event should stay where they are
- work that could interfere with the scene of the event should stop
- no alterations should be made to the plant, vehicles, or structures involved.

Can work continue?

Work can continue in other parts of the workplace.

Section 56 – Duty to notify notifiable event

A PCBU must, as soon as possible after becoming aware that a notifiable event arising out of the conduct of the business or undertaking has occurred, ensure that the regulator is notified of the event.

- You can notify an Extractives inspector by telephone of a notifiable event.
- But then must follow up and report the event using the online form on the WorkSafe website
- If there has been a death, call WorkSafe immediately on 0800 030 040 (24/7).

Following a notifiable event

- Investigate what happened.
- Work out what can be changed to prevent it happening again.
- Make those changes.
- Submit your investigation findings (such as investigation report) to the Extractives team within 30 days of the incident.

Priscilla Harris
Principal Inspector Quarries and Mining

4.0
The regulator

IN THIS SECTION:

4.1 Our activities

The Extractives Specialist Health and Safety Inspectors at WorkSafe use a range of interventions to undertake their duties. Inspectors strive to achieve the right mix of education, engagement and where required enforcement. This section of the report includes a summary of the interventions used by the Extractives Inspectors during the quarter.

4.2 Assessments

Proactive assessments aim to prevent incidents, injuries and illness through planned, risk-based interventions. Reactive activities are undertaken in response to reported safety concerns or notifiable events. Assessments can be either site- or desk-based in nature.

For proactive site-based assessments, the objectives of each visit are agreed and the appropriate inspection tool is selected. Targeted assessments and regulatory compliance assessments can take several days on site with a team of inspectors attending. These multi-day inspections may be 'targeted' to assess the controls in place for a particular principal hazard (for example, WorkSafe has been targeting 'roads and other vehicle operating areas' as a result of the high number of notifiable events in this area), or they may involve a more general assessment of 'regulatory compliance'. Site inspections and targeted inspections are generally completed in a one day site visit but can also focus on specific topics.

As well as site-based assessments, the Inspectors spend considerable time undertaking desk-based assessments. Proactive desk-based assessments include the review of Principal Hazard Management Plans (PHMPs), Principal Control Plans (PCPs), mine plans, and high risk activity notifications. Responding to notifiable events and safety concerns may involve a site-based or desk-based assessment, or both.

Table 8 shows the range of assessments undertaken in Q2 2024/25 by sector.

		ASSESSMENTS	MINE	TUNNEL	ALLUVIAL MINE	QUARRY
Proactive	Site-based	Targeted assessments				
		Regulatory compliance assessments			2	4
		Site inspections	6	4	5	15
		Targeted inspections	3			
	Desk-based	PHMP/PCP review	14	13		
		Mine plan review	31	12		
		High risk activity	3			
Reactive	Site-based	Concerns – inspection				2
		Notifiable events – inspection	8		2	6
	Desk-based	Concerns – desk-based				3
		Notifiable event – desk-based	9		1	9

TABLE 8: Proactive and reactive site and desk based assessments conducted in Q2 2024/25

Figure 11 shows the number of proactive and reactive site- and desk-based assessments undertaken by the regulator in Q2 2024/25. This quarter 38% of our activities were site-based, and 74% of activities were proactive.

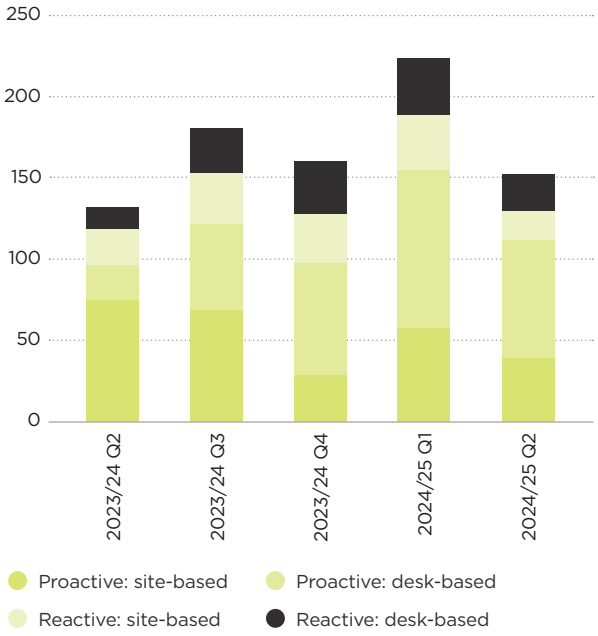

FIGURE 11:
Proactive and reactive site and desk-based assessments

Figure 12 shows the number of assessments undertaken by the regulator in Q2 2024/25 by sector. This quarter, 26% of our assessments were for quarries, 49% for mines, 19% for tunnels and 7% for alluvial mines.

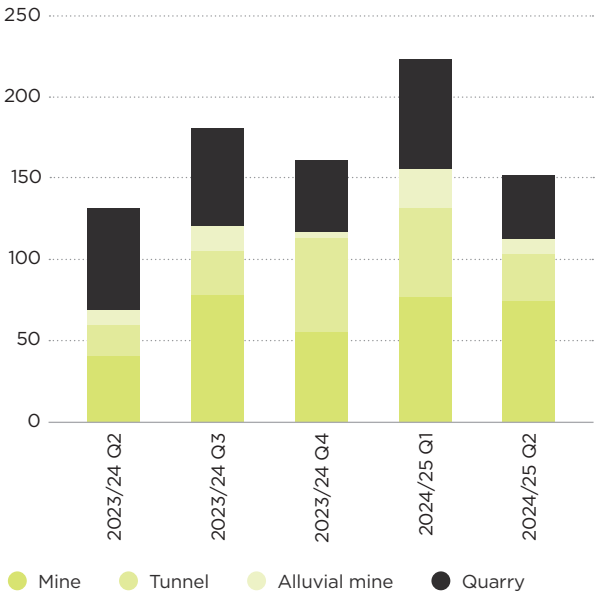

FIGURE 12:
Assessements by sector

4.3 Enforcements

Enforcement actions issued by WorkSafe include prohibition and improvement notices and directive letters. Enforcement actions are issued according to our Enforcement Decision Making (EDM) Model when health and safety issues are identified through assessments.

Figures 13 and 14 show the number of enforcement actions issued in Q2 2024/25 by notice type and by sector. This quarter, a total of 95 enforcement actions were issued. Of those, 0% of were prohibition notices, 27% were improvement notices, 72% were directives and 1% were sustained compliance letters. The majority of the enforcement actions were issued to the alluvial mining (32%), and quarrying (51%) sectors.

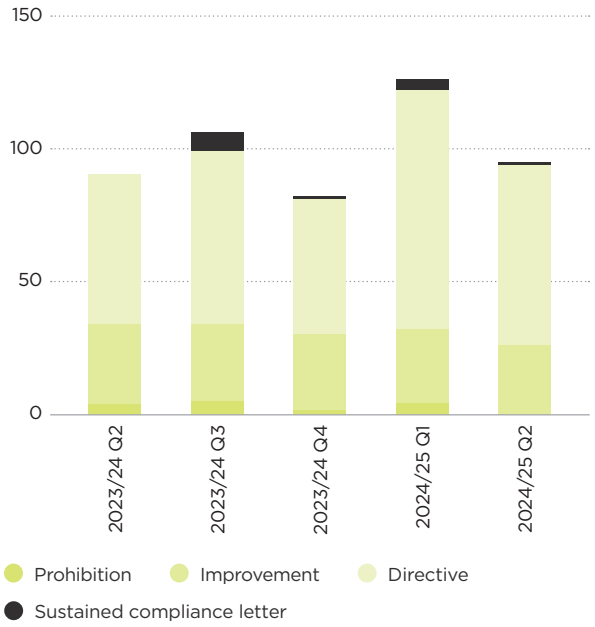

FIGURE 13: Enforcement actions issued by type

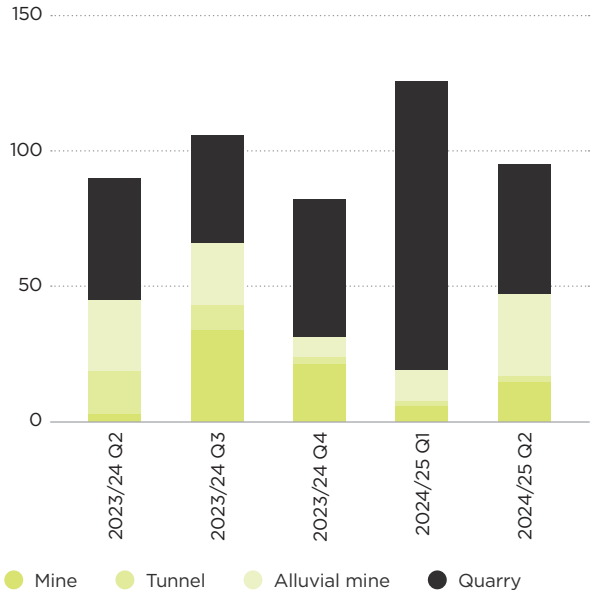

FIGURE 14: Enforcement actions issued by sector

Figure 15 shows the number of enforcement actions issued in Q2 2024/25 by category, and provides an indication of the key areas of concern to our inspectors. This quarter, the majority of enforcement actions were issued for health and safety issues relating to roads and other vehicle operating areas (18%), guarding (15%), and health and safety management systems (19%).

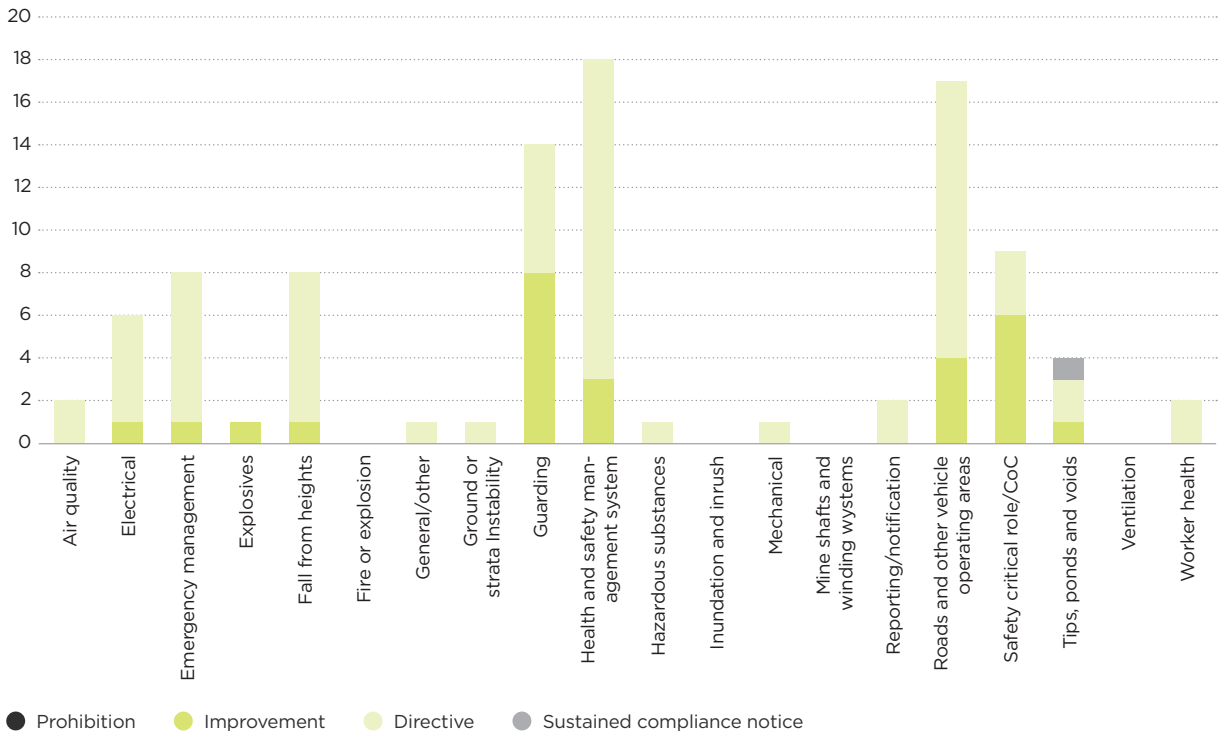

FIGURE 15: Enforcement actions issued by category 2024/25 Q2

Regulator activity comment

Q2 included the end of calendar year period, which typically sees a drop in the number of planned assessments late in the quarter, with Inspectors focusing on completing any outstanding reports, or responding to PHMP submissions prior to the Christmas break. The work breakdown for this period was similar to Q2 period for the previous year. The number of proactive desk-based assessments (PHMPs, PCPs) remained higher than the previous year, and reflects a number of new mining/tunnel operations submitting plans.

Notes

Disclaimer

WorkSafe New Zealand has made every effort to ensure the information contained in this publication is reliable, but makes no guarantee of its completeness.

It should not be used as a substitute for legislation or legal advice. WorkSafe is not responsible for the results of any action taken on the basis of information in this document, or for any errors or omissions.

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