QUARTERLY REPORT

Extractives industry

2020/21 Q4

April to June

Te Kāwanatanga o Aotearoa
New Zealand Government

WORKSAFE
Mahi Haumaru Aotearoa

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.

At the time I am writing this we are sitting through another period of COVID-19 restrictions. We have completed the New Zealand-wide level 4 lockdown, and many of us are now watching from our level 2 havens as Auckland remains in level 4, but all of New Zealand still tunes in to analyse the count and location of new case numbers every day.

It seemed to me that this process looks remarkably like a risk management refresher course, and many of our industry should be understanding the logic and decisions better than many other groups in New Zealand

We have a hazard – and if possible, it was the correct first option to eliminate it.

But as we know from our industry experience, elimination can be difficult and often you are required to develop a minimisation strategy, which is the strategy we are now moving into.

And the actual catalyst for a change of strategy was in fact a significant change to the nature of the hazard. The Delta variant changed the effectiveness of existing controls and highlights that you must always monitor the hazards you are dealing with. Changes of equipment or work practices can often change the risk profile enough to make existing controls unsuitable.

Currently we see lots of isolation practices and the limiting of numbers of persons in gatherings to limit exposure.

Some of these practices are effective on both sides of the bow tie. They can prevent transmission altogether or they limit the number of persons who would be affected if someone was infectious.

All these considerations are a result of pure risk management practice, and I am sure you see the similarities to your day-to-day work.

But interestingly, we also see lots of other issues occurring that industry also often struggles with when setting up safe work practices. We see conflicting objectives – efficient working together versus the creation of isolated bubbles of smaller groups of workers. Getting ALARP correct – financial versus safety considerations etc.

And we see rule breaking. Persons who think the rules apply to everyone else but themselves. The last few weeks have certainly shown us that there is an element in society who believe they know best. What is very heartening is the overwhelming rejection by the majority of the population about these persons' actions. I think this type of immediate reaction from peers, whether it is the general public or just the rest of the workforce of an organisation, is a very powerful message to those who might consider taking a shortcut in any situation. It ultimately goes to shaping the culture.

We have also seen inadvertent breaches of isolation due to unforeseen circumstances or just through poor design of facilities – hotels and their corridors and air conditioning systems were not designed to create an isolation building. But we have been required to repurpose them for another function – this use of equipment or facilities designed for another purpose often brings risks, and the most well-intentioned people cannot always make modified setups work.

Another interesting aspect of the COVID-19 management strategy is the measurement of its success.

We are all becoming experts on what case numbers mean each day, R numbers, vaccination percentages, and how to extrapolate out the predictions. If you thought back through your understanding, you have all developed more a subtle and sophisticated understanding about how well we are doing.

The simple case number per day is not as important as how many could not be linked to existing cases. That a big number which were all family members already in isolation is good, but a small number of mystery cases is bad!

So everyone has learnt what we already know, understanding the precise risk and what are the best measures of effectiveness of controls is important.

Hope you all remain well, and thanks to those in Auckland who have been confined for so long for the benefit of the rest of us!

Paul Hunt
Chief Inspector Extractives

About this report

This quarterly health and safety performance report has been prepared by WorkSafe 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 mining and tunnelling sector 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.

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1.0
Industry profile

IN THIS SECTION:

1.1 Operations

3

Metalliferous opencast mines
Includes one mine under care and maintenance and one mine under rehabilitation

22

Coal opencast mines
Includes four mines under care and maintenance, and one undertaking rehabilitation

7

Metalliferous underground mines
Includes two mines under care and maintenance and two operating tourist mines

2

Coal underground mines
Includes one tourist mine under care and maintenance

5

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

0

Coal exploration
No notifications of drilling commencement in the quarter

71

Alluvial mines
Number of mines that have been verified (65) or have notified of an Appointed Manager to WorkSafe (6) (includes 2 iron sands mines)

1,050

Quarries
Number of quarries that have been verified (909) or have notified of an Appointed Manager to WorkSafe but not yet verified (141)

An important aspect of understanding the health and safety performance of 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 1,160 active operations in New Zealand as at the end of June 2021.

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.

The numbers of operations will vary from quarter to quarter. In these first quarterly reports, many of the changes are due to verification of sites by our inspectors, rather than actual changes to operations.

1.2 People

715

Metalliferous opencast mines
482 FTEs employed by mine operators and 233 FTEs employed by contractors

740

Coal opencast mines
630 FTEs employed by mine operators and 110 FTEs employed by contractors

446

Metalliferous underground mines
366 FTEs employed by mine operators and 80 FTEs employed by contractors

24

Coal underground mines
17 FTEs employed by mine operators and 7 FTEs employed by contractors

703

Tunnels
364 FTEs employed by mine operators and 339 FTEs employed by contractors

0

Coal exploration
No coal exploration in the quarter

278

Alluvial mines
Number of workers is known for 30 of the 71 alluvial mines that are verified and/or have notified of an Appointed Manager. The total number of workers has been extrapolated for the remaining 41 operations

3,254

Quarries
Number of workers is known for 730 of the 1,050 quarries that are verified and/or have notified of an Appointed Manager. The total number of workers has been extrapolated for the remaining 320 operations

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.

A notable change is anticipated in the number of tunnel workers with two large tunnel operations in Auckland going operational in 2020. Thousands of different types of workers will be exposed to these operations over the duration of the projects. The number of tunnel workers reported this quarter increased by 167 from last quarter.

Figure 1 shows the total hours worked by the mining and tunnelling sectors in Q4 2020/21. The hours are separated into Employees and Contractors.

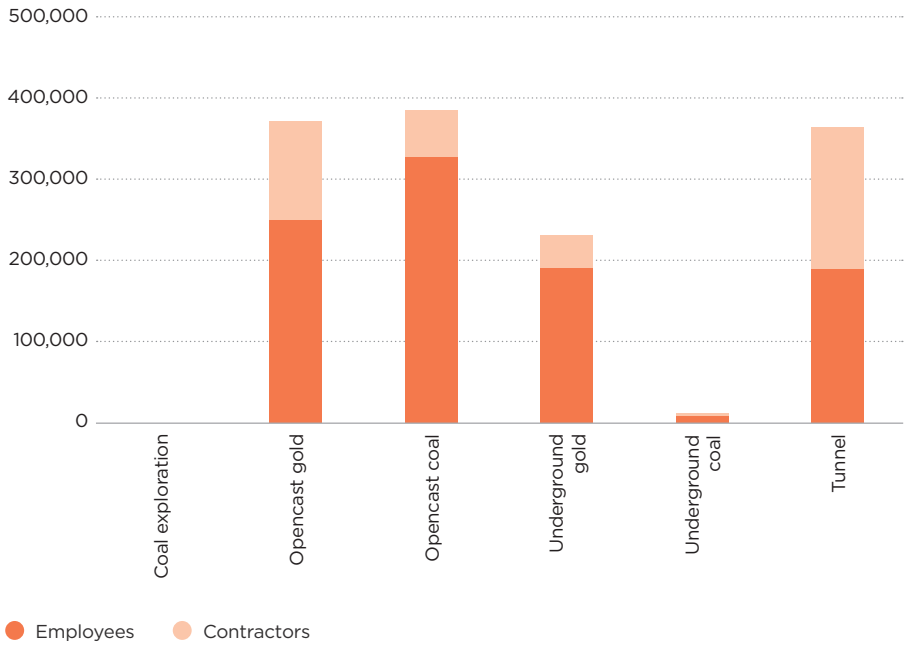

FIGURE 1:
Total hours worked by sector 2020/21 Q4

Figure 2 shows the number of Full Time Equivalents (FTEs) calculated from total hours worked for the mining and tunnelling sectors in Q4 2020/21. The hours are separated into Employees and Contractors.

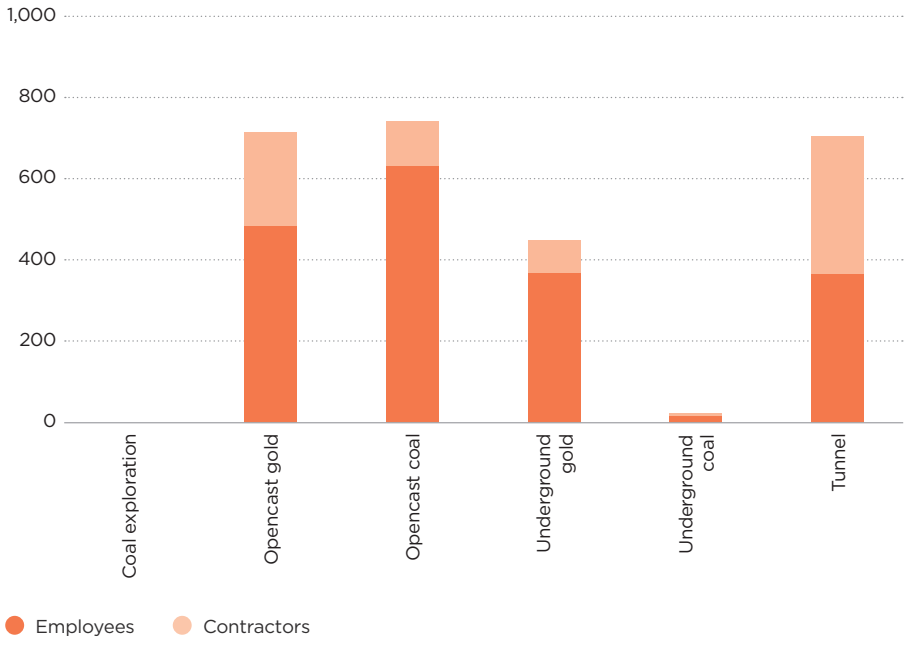

FIGURE 2:
Number of FTEs by sector 2020/21 Q4

1.3 Developing competence

WorkSafe has responsibility for setting the 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).

In July 2020 the first CoCs issued under the new regulations began to expire and those wishing retain a CoC were required to submit a renewal application with CPD log books.

The table below uses the 31 June 2020 date as a benchmark. This is the date when we stopped just issuing new CoCs, but also started to have expired or renewed CoCs.

The BoE continues to catch up with the large number of renewal submissions this year but has made good progress, and the turn-around time from applications being received to CoC renewal is reducing.

The BoE would like to stress that the quality of the application will make a big difference to time taken to process. Use of the new logbook and putting the CPD entry, learning and evidence in a good logical order makes the review process a lot easier for the BoE Secretariat.

Table 1 provides a summary of all CoC's issued up to 30 June 2020 and current number of CoCs in circulation at the end of Q4 2020/21.

COC TYPE	TOTAL NUMBER OF COCs ISSUED (2015 to 30 Jun 2020)	TOTAL NUMBER OF CURRENT COCs (as at 30 Jun 2021)	CHANGE IN NUMBER OF CURRENT COCs 1 Jul 2020 to 30 Jun 2021
A Grade Quarry Manager	315	269	-46
B Grade Quarry Manager	482	418	-64
A Grade Opencast Coal Mine Manager	71	61	-10
B Grade Opencast Coal Mine Manager	64	56	-8
A Grade Tunnel Manager	32	38	6
B Grade Tunnel Manager	74	65	-9
Site Senior Executive	62	58	-4
First Class Coal Mine Manager	21	14	-7
First Class Mine Manager	31	22	-9
Coal Mine Deputy	44	32	-12
Coal Mine Underviewer	35	22	-13
Mechanical Superintendent	25	23	-2
Electrical Superintendent	17	19	2
Ventilation Officer	3	4	1
Mine Surveyor	13	12	-1
Site Specific	1	2	1
Winding Engine Driver	3	0	-3
Total	**1293**	**1115**	**-178**

TABLE 1: Certificates of Competence in circulation

In general we are seeing a reduction of active CoCs available in Industry. As previously stated we will evaluate the significance of this over time.

2.0 Health and safety performance

IN THIS SECTION:

2.1 Notifiable events

Notifiable events are required to be reported to WorkSafe under S23(1), S24(1) and S25(1) of the Act, and for mining and tunnelling operations, 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 two years and for each quarter of 2020/21 for mines and tunnels (Table 2) and quarries and alluvial mines (Table 3).

MINES AND TUNNELS	2018/19 QUARTERLY AVERAGE	2019/20 QUARTERLY AVERAGE	2020/21 Q1	2020/21 Q2	2020/21 Q3	2020/21 Q4
Number of notifiable events	18	20	17	17	20	17
Number of operations that notified events	9	11	8	10	11	7

TABLE 2: Mines and tunnels – notifiable events and operations that notified events

Nineteen individual mines and tunnels from a total of 41 reported notifiable events in the past 12 months.

QUARRIES AND ALLUVIAL MINES	2018/19 QUARTERLY AVERAGE	2019/20 QUARTERLY AVERAGE	2020/21 Q1	2020/21 Q2	2020/21 Q3	2020/21 Q4
Number of notifiable events	14	18	17	20	14	11
Number of operations that notified events	13	15	8	19	12	7

TABLE 3: Quarries and alluvial mines – notifiable events and operations that notified events

Forty-six individual quarries and alluvial mines from a total of 1,121 reported notifiable events in the past 12 months.

Figure 3 shows the number of notifiable events reported to WorkSafe by sector from July 2019 to June 2021.

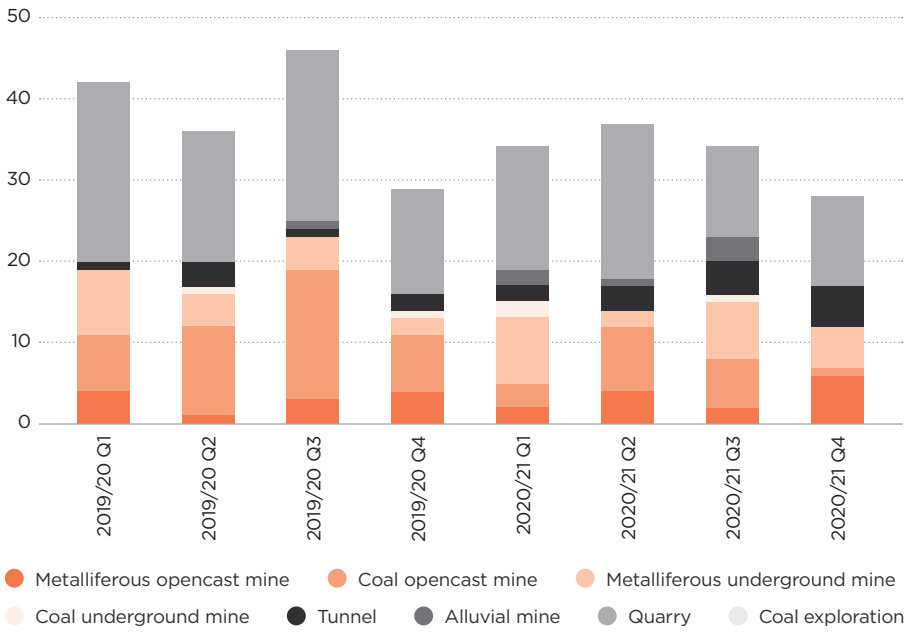

FIGURE 3: Notifiable events by sector

2.2 Injuries

Additional information about injuries is reported to WorkSafe for mining and tunnelling operations 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 by the mining and tunnelling sectors from July 2018 to June 2021. 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 TRIFR is 3.7. The TRIFR rate remains stable.

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.

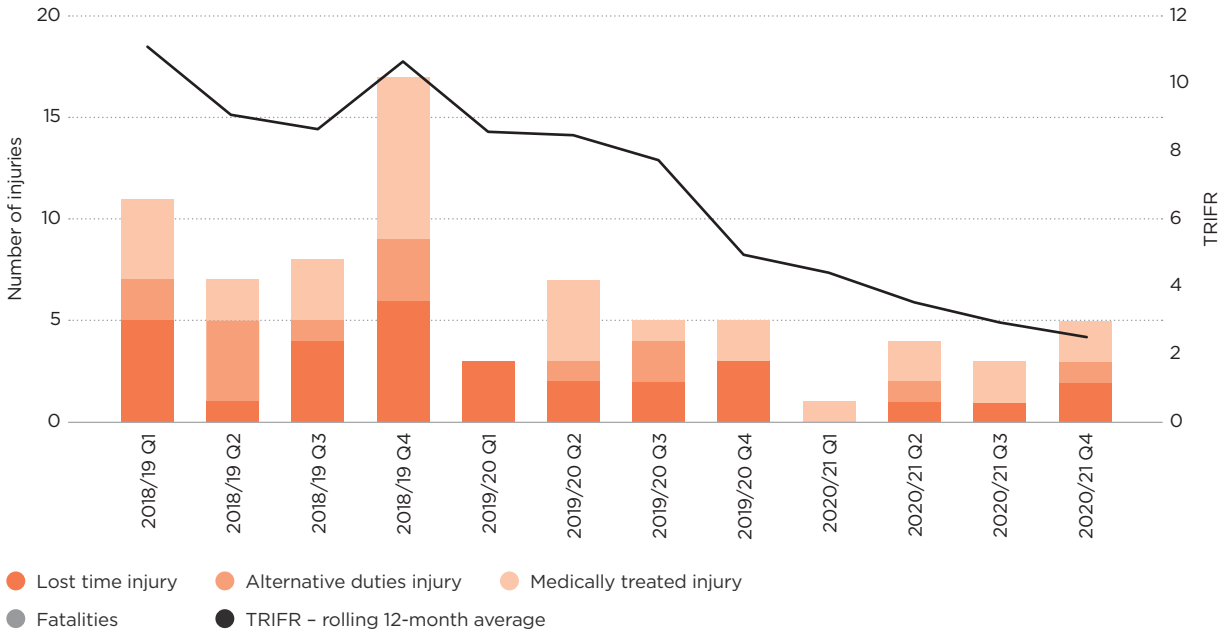

FIGURE 4: TRIFR – mines and tunnels

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 1 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).

Figures 5 and 6 show the number of injuries resulting in more than a week away from work (WAFW), and the sum of the claims costs for those WAFW injuries for the mining and quarrying sectors from July 2018 to December 2020. It is important to note that the number of WAFW injuries for previous quarters may increase over time as ACC can grant claims up to 12 months after an injury has occurred. The claims costs for WAFW injuries for previous quarters will also continue to increase over time as the true costs of those injuries are realised. It may take two years or more for the true costs to be realised. The average cost of extractives sector WAFW injuries between July 2018 and December 2019 was over $17,250 per injury.

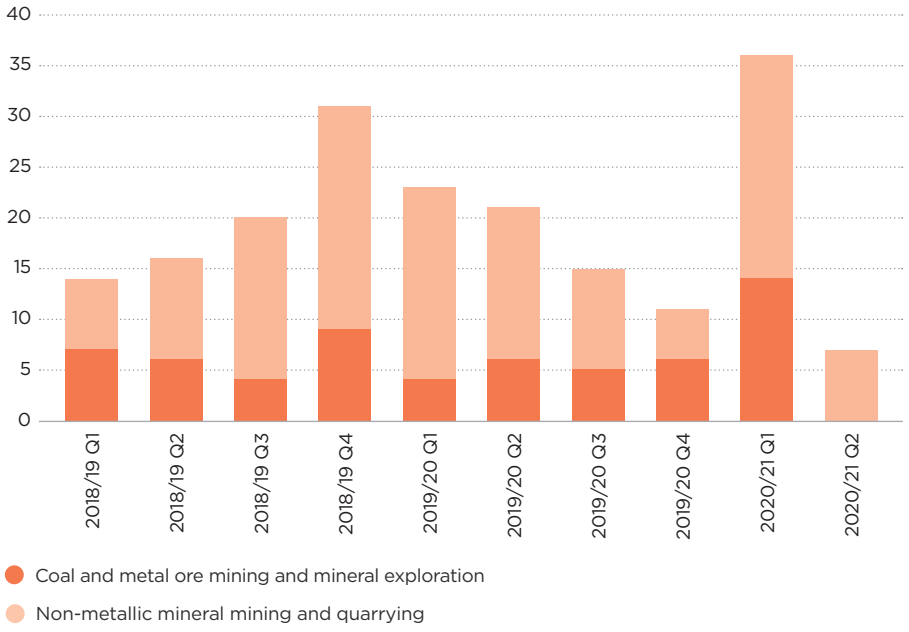

FIGURE 5:
Number of injuries resulting in more than a week away from work

FIGURE 6:
Sum of claims cost (excluding GST) for injuries resulting in more than a week away from work

The data for these graphs comes from our System for Work-related Injury Forecasting and Targeting (SWIFT) database. It includes ACC data on approved work-related injury claims that resulted in more than a week away from work (WAFW). There is a seven month lag applied to the data to allow time for the claim information to stabilise, so data for the past two quarters is not yet available. While SWIFT data draws on ACC data, differences in counting criteria mean it may not match ACC counts, and should not be considered official ACC data.

2.3 Types of events

Figures 7 and 8 show the notifiable event categories for events notified to WorkSafe in the previous 12 months, by the mining and tunnelling sectors and the quarrying and alluvial mining sectors, respectively. The data shows that 51 percent of notifiable events in the mining and tunnelling sectors in the past 12 months have occurred in relation to vehicles and plant (26%), and fire, ignition, explosion or smoke (25%). These two categories are broken down in more detail in the following section. Fifty-four percent of notifiable events in the quarrying and alluvial mining sectors in the past 12 months involved the collapse, overturning, failure or malfunction of, or damage to plant (34%) and an implosion, explosion or fire (20%).

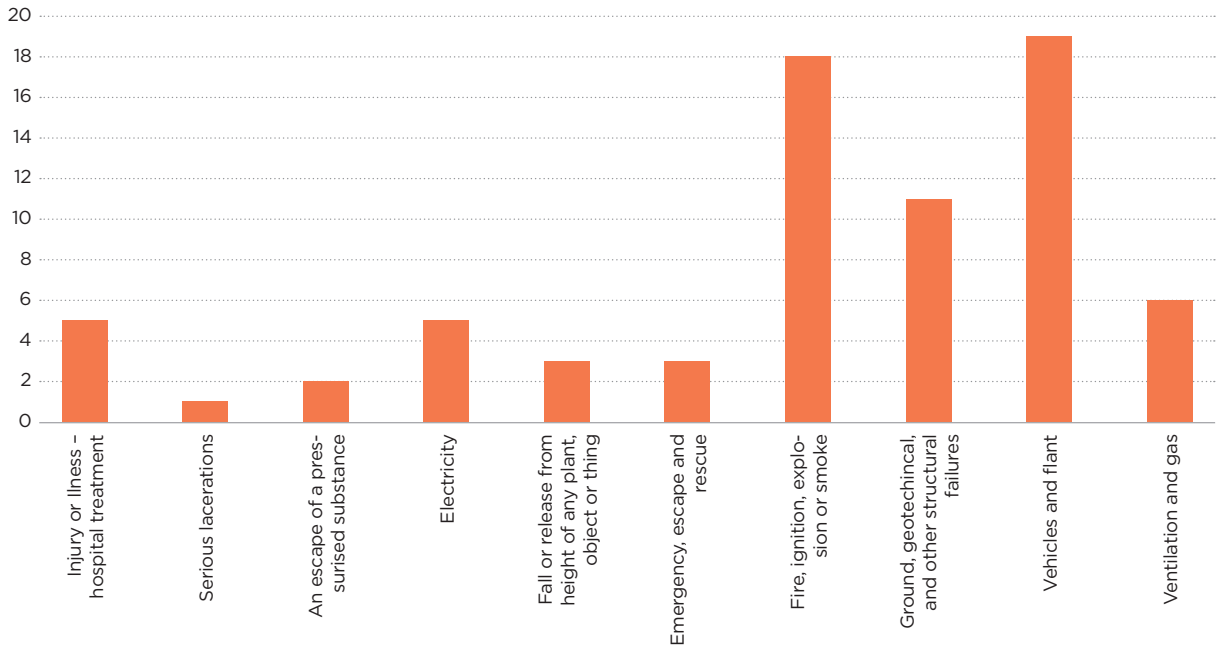

FIGURE 7: Mines and tunnels notifiable event categories for the previous 12 months

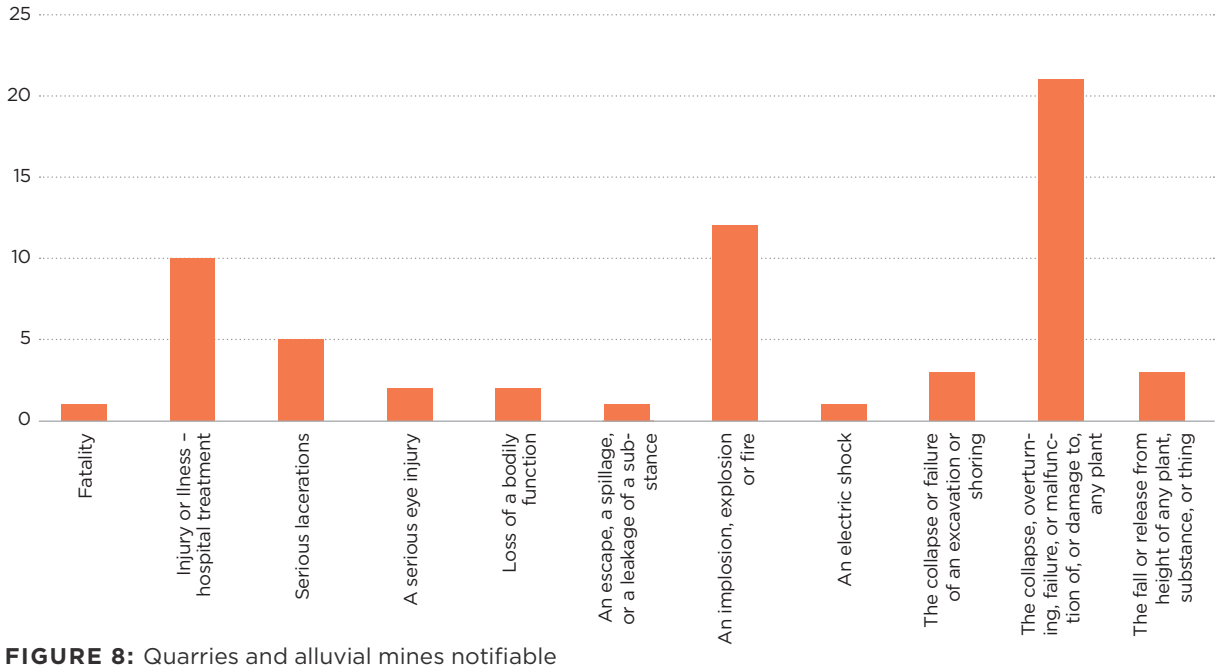

FIGURE 8: Quarries and alluvial mines notifiable event categories for the previous 12 months

2.4 Mine and tunnel 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 9 and 10 break down the two largest notifiable event categories for mines and tunnels 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, 89% involve fires on plant, mobile plant or in buildings associated with mining or tunnelling activities, and 5% involves spontaneous combustion, and 6% 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 (32%), overturning of mobile plant (53%), unintended movement or brake failure (10%), and breach of a safety berm or windrow (5%).

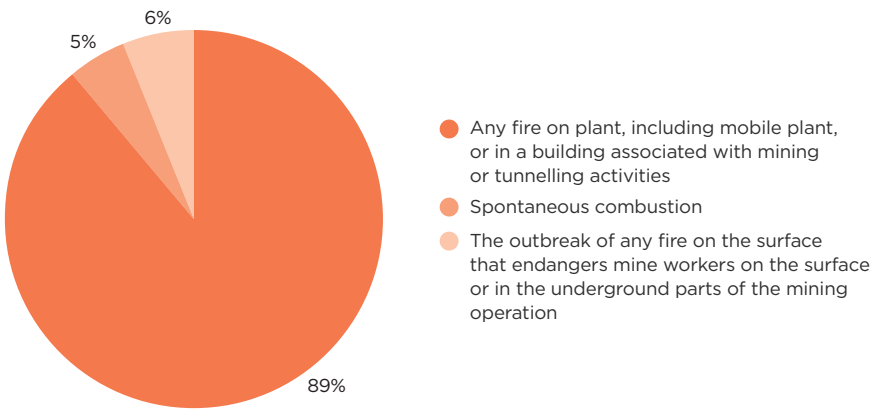

FIGURE 9: Fire, ignition, explosion or smoke-related notifiable event sub-categories

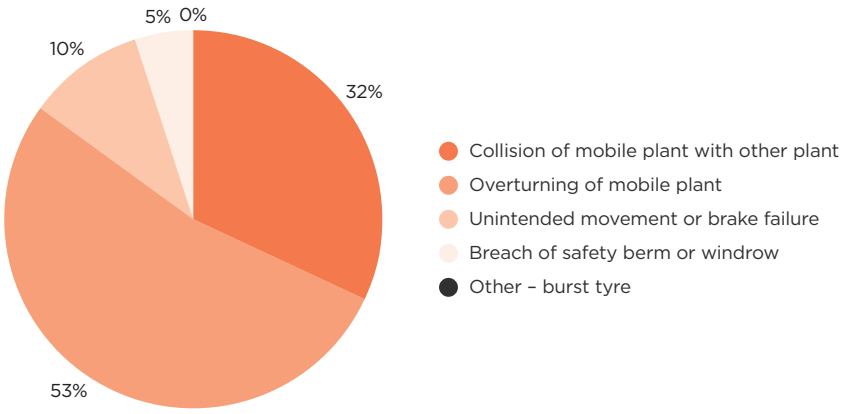

FIGURE 10: Vehicles and plant-related notifiable event sub-categories

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 48% of operations in the past 12 months, 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 4.1% of operations in the past 12 months. The SWIFT data on WAFW injuries consistently shows higher numbers of injuries in the quarry sector, suggesting under-reporting of events. More accurate reporting from the quarry sector is expected when the requirements for reporting under Schedules 5 and 8 are implemented for quarries.

2.5 Regulator comments

This quarter I wanted to make some observations about leadership and how important it is to the day-to-day safety outcomes on any site.

My first general comment is I believe that the health and safety culture on any site mirrors what the leaders do. To be a bit more precise, it might be the health and safety culture is not what the leaders want, but it does generally reflect what the leaders actually demonstrate day by day is most important to them.

In a simple example, if the major focus on a site is cost saving and managers are continually discussing it, looking at opportunities for savings and having to constantly report on it, then workers will not believe safety is the company's or the leaders' and managers' first concern, and therefore often safety is not the workers' first concern either.

This section is too short to write about all the aspects of good leadership, but I thought a simple list of what good might look like would be helpful.

Demonstrate visible leadership – by owners, officers of companies, managers

- Ensure that the organisation's safety information and incident reporting systems are free flowing and you are getting accurate timely information. You should know about any serious incident ASAP.
- Get involved in safety discussions with workers as often as you can. This should be regularly and not just a one-off annual presentation to the staff.
- Conduct your own site inspections and audits. It is often useful to prepare. Get a copy of the site traffic management plan for instance, read it and then when you are on site ask to see how it has been implemented and determine how well it is working. This will take time.
- Ask for a safety rep or other workers to accompany you – not just the supervisor.
- Attend the safety meetings:
  - listen and participate positively
  - commit to considering things when you are unsure
  - always deliver what you promise.
- Attend daily toolboxes when you have an opportunity. To start with workers are often shy; a good health and safety culture is when you are all comfortable with anybody attending and the conversation is free flowing – but always respectful.
- Follow up personally on incident reports – make the time to contact the person who reported it, don't just let the supervisor deal with it. It could be just to check that the person is satisfied with the outcome.
- Follow up on the actions from investigations. Check that they have been completed yourself or delegate a senior person. This is especially important for controls that are implemented as a result of an HPI.
- Occasionally visit sites unannounced, and focus just on safety.
- Start all manager's performance reviews with a review of the safety performance and try to include discussion about what improvements are planned.
- Reward or acknowledge good safety performance.
- Reward courageous decisions that relate to safety, for example, a manager or supervisor who stops production and rectifies a safety issue.

These are simple suggestions but are often in practice quite hard to fit in, so it is very important to allocate time in your dairy to undertake these safety activities. They are as important as board meetings.

A good percentage of any leader's work time should be health and safety related – if you don't plan it, you won't do it.

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 – 2020/21 Q4

Table 4 provides a summary of high potential incidents notified to WorkSafe in Q4 2020/21. The summaries are an abridged version from the operator's notification report.

INCIDENT DATE	SUMMARY	CONSIDERATIONS
Apr 21	An excavator has swung around and hit the tray of the haul truck, causing the operator's cab to move and the operator has hit their head (either on the side panel or the steering wheel, not sure). The truck did not roll or crash. The injured person is on the way to hospital to be assessed for concussion but are otherwise okay.	– - Job Planning – - Risk Assessment – - Supervision – - Training – - Emergency Management
Apr 21	The starter solenoid on an integrated tool carrier caught fire, likely due to an internal fault - jamming or a starter circuit fault - causing an electrical overload that resulted in heating and subsequent fire.	– - Fire or explosion – - Equipment selection and design – - Equipment maintenance
Apr 21	A fall of ground occurred following bogging of a heading. The failure occurred when no personnel were present and appears to have started as a progressive failure from the unsupported cut, working its way along a structure above the toe of the bolts and unravelling through 1.5–2 cuts of supported ground.	– Ground and strata – Design – Risk assessment – Workplace inspection
Apr 21	A customer truck was tipping off cleanfill, when the bin of the truck tipped over.	– Roads and operating surfaces – Job planning – Risk assessment – Supervision – Training – Contractor management
Apr 21	A shotcreter had a blockage on the machine and went to undo nozzle, and it blew off under pressure and hit in chest. He fixed the machine and kept working. In the morning workers thought he looked in pain and was taken to doctor who wanted him admitted for observation, just bruising found.	– Isolation – Job planning – Risk assessment – Supervision – Training – Contractor management
Apr 21	Worker was cleaning out blocked chute under concrete hopper when there was a release of wet cement, covering the worker and the ground below. Approximately 3t of material came out of the chute, not all in the direction of the worker.	– Isolation – Job planning – Risk assessment – Supervision – Training
Apr 21	A 777 dump truck was tipping waste on a dump when the truck sank and become stuck. The dozer had been undercutting the unsuitable material and the truck has backed the offside into the undercut area.	– Roads and operating surfaces – Tips, pond and voids – Risk assessment – Supervision – Training
May 21	During normal mining operations it was reported to the on-shift supervisor that water was running down a section of the haul road. On inspection it was found that the earth wall on a circa 1000cu/m above ground pond that is pump fed and used to store water for dewatering operations had breached, resulting in the uncontrolled release of water.	– Tips, pond and voids – Design – Risk assessment – Workplace inspection
May 21	A Caterpillar 789 haul truck has inadvertently driven (at low speed) into the back of another 789 haul truck, causing damage to handrails on the off side of the machine (right hand platform) while in the process of positioning themselves to back in under the digger to commence the loading phase. No Injuries sustained.	– Job planning – Risk assessment – Supervision – Training
May 21	Unintended contact of mobile plant (roadheader) with trailing cable.	– Roads and operating surfaces – Job planning – Risk assessment – Supervision – Training

INCIDENT DATE	SUMMARY	CONSIDERATIONS
May 21	Misfire of blast, due to slave box being on wrong setting.	– Explosives – Risk assessment – Workplace inspection – Training
May 21	Fire identified on the POS1 wheel housing of an underground loader. Fire was extinguished using fire extinguisher. No injury sustained.	– Fire or explosion – Equipment selection and design – Equipment maintenance
May 21	Worker slipped on bulldozer track while exiting the cab, broken leg.	– Job planning – Risk assessment – Supervision – Training
May 21	Truck parked under overhead bin B to receive a load, bin C was triggered, dropping a load in front of the truck.	– Risk assessment – Supervision – Training
Jun 21	Worker was standing on scaffolding and put their weight on a part of the roof being repaired that looked solid. The wood broke away and the worker tried to rebalance himself but fell feet first onto flat ground. Wanted to stand but was kept immobilised. Ambulance called (50 mins) to turn up, handed over to Ambulance.	– Fall from height – Job planning – Risk assessment – Supervision – Training
Jun 21	A spoil truck made contact with the wheel of a MEWP as it passed it. There was a worker in the basket of the MEWP at the time that the contact was made. The basket moved around as a result of the contact from the concrete truck. There was no injury.	– Fall from height – Traffic management – Job planning – Risk assessment – Supervision – Training

TABLE 4: High potential incidents – 2020/21 Q4

Table 5 and figure 11 shows the number of high potential incidents per quarter during the last year for all extractives operations.

QUARTER	Q2 OCT-DEC 2019	Q3 JAN-MAR 2020	Q4 APR-JUN 2020	Q1 JUL-SEP 2020	Q2 OCT-DEC 2020	Q3 JAN-MAR 2021	Q4 APR-JUN 2021	TOTAL PREVIOUS 12 MONTHS
Number of high potential incidents per quarter	28	34	15	20	24	23	16	**83**

TABLE 5: High potential incidents per quarter

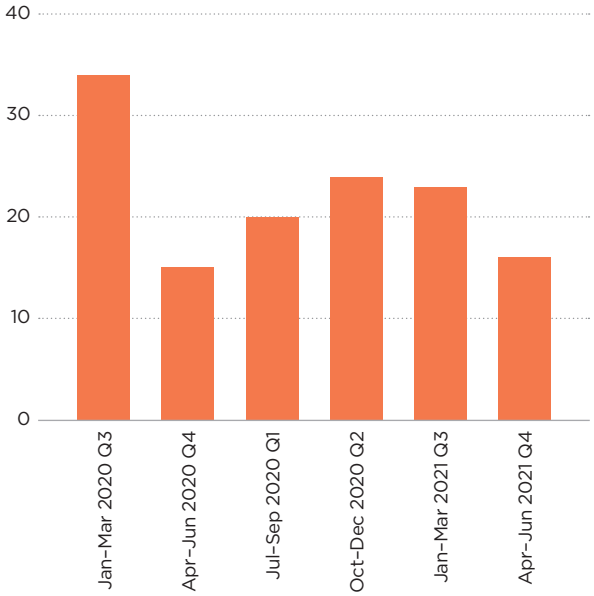

FIGURE 11: High potential incidents per quarter

2.7 High potential incidents – investigation outcomes

INCIDENT DATE	SUMMARY	CONSIDERATIONS
Jun 21	A spoil truck made contact with the wheel of a MEWP as it passed it. There was a worker in the basket of the MEWP at the time that the contact was made. The basket moved around as a result of the contact from the concrete truck. There was no injury.	– Fall from height – Traffic management – Job planning – Risk assessment – Supervision – Training

TABLE 6: High potential incident – investigation outcomes case study

FIGURE 12: Incident scene photograph

The incident

A subcontractor team was installing gutter brackets on the south-western corner of a noise shed using a Mobile Elevating Work Platform (MEWP). One worker was working inside the basket of the affected MEWP 13m above the ground with a spotter being present in the lead up to the incident. A six-wheeler truck used for transportation of spoil tried to drive around the MEWP to reach the muck bin inside the noise shed. While maneuvering the truck around the MEWP, the left-hand side back wheel of the truck clipped the tyre of the MEWP, jolting the worker inside the basket of the MEWP.

The investigation identified

- The exclusion zone set up around the MEWP protruded into the haul route and did not provide sufficient demarcation of the work area or separation from the haul road; the exclusion zone was not fit for its intended purpose.
- The MEWP spotter installed the exclusion zone but prior to the event left the site to retrieve tools, and returned after the event.
- For prior MEWP works at this location the haul road had been closed, on this day this did not take place.
- MEWP works earlier on the morning of the incident on the northern side of the noise shed west wall had the correct controls in place, inclusive of an exclusion zone and a spotter to escort vehicles on the haul road.
- The Working at Height (WAH) permit was in place with all persons signed on.
- WAH permit does not identify need or position of exclusion zones, barriers or closing of haul road (that is, the hazards and the controls).
- Prestarts were completed, not all subcontractor workers signed on to the site prestart.
- All workers attended the briefing on the Noise Shed safe work method statement (SWMS).
- The permit receiver did not have permit receiver training.
- All workers were inducted to the site and project.
- The truck driver had completed driver induction.

The investigation concluded that there was a series of systemic failures leading to this serious near miss:

- The daily work planning and risk identification did not identify that the MEWP would be working on the haul road.
- When the same task had occurred previously in the same area, the haul road had been shut as a means of eliminating the hazard of vehicle and MEWP interactions.
- During the execution of the works the identified control within the SWMS, being a suitable exclusion zone as a means of isolating the hazard, was not sufficiently implemented by the subcontractor. If this had been performed the supervisor would have been notified that the exclusion zone was blocking the haul road, likely leading to the prior implemented control being implemented on this day (elimination by means of the trucks being cancelled and the haul road being closed).
- A planned primary control, being the spotter, was not present during the vehicle movement in the vicinity of the MEWP.
- The haul road with associated barriers had not been installed per the site layout plan due to the site layout being in a transitory phase.
- The project health and safety management documentation does not require barriers to be in place to separate vehicles and MEWPs; the WorkSafe good practice guide for Mobile elevating work platforms does require barriers.
- The permit officer role was not implemented as required, which includes working with subcontractors to comply with permit requirements.

Regulator comments

The interaction of workers and plant on any site is a key consideration. Traffic management plans should be comprehensive and include consideration of proposed changes of road layouts, and hard barriers should be used between mobile plant and other adjacent work activity where there is risk of interaction. The planning of day-to-day work should take into account all activities on the site and identify when there is potential for any work to impact on other workers.

All workers should be made aware of the controls that will be in place to ensure their safety, prior to commencing work. Supervisors or delegated persons should inspect and confirm arrangements prior to work commencing. In this instance it was unclear what had been agreed and many of the controls used previously for similar activities were not in place. The work involving a MEWP was not well integrated into the other site activities and there was a lack of workplace coordination and supervision.

Recommendations

- Sites should develop standards for work involving mobile plant which includes minimum separation distances and rules for working on active roads.
- Hard barriers between mobile plant and other activities should always be the first consideration.
- Daily work should be coordinated and potential of any interaction between different activities identified prior to work commencing.
- The work planning should include taking into account any contractor's activities and ensuring that all workers including contractors are updated on hazards and that controls that will be present each day.
- Active supervision should always be in place.

3.0
The regulator

IN THIS SECTION:

3.1 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.

3.2 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 7 shows the range of assessments undertaken in Q4 2020/21 by sector.

		ASSESSMENTS	MINE	TUNNEL	ALLUVIAL MINE	QUARRY
Preventative	Site-based	Targeted assessments		1		
		Regulatory compliance assessments	8	14	2	
		Site inspections		65		
		Targeted inspections		10		
	Desk-based	PHMP/PCP review		15		
		Mine plan review		2		
		High risk activity	1			
		COVID-19 assessment				
Reactive	Site-based	Concerns – inspection				
		Notifiable events – inspection	5			3
	Desk-based	Concerns – desk-based		1		3
		Notifiable event – desk-based	7	3		4

TABLE 7: Proactive and reactive site and desk based assessments conducted in Q4 2020/21

Figure 13 shows the number of proactive and reactive site- and desk-based assessments undertaken by the regulator in Q4 2020/21. This quarter 74% of our activities were site-based, and 82% of activities were proactive.

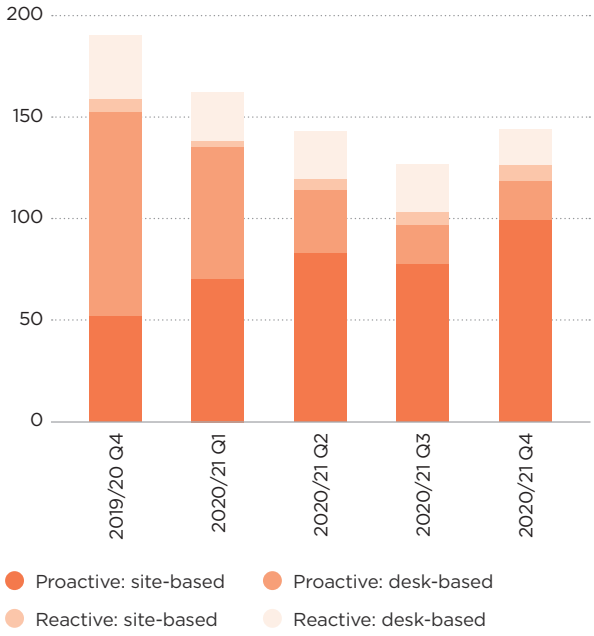

FIGURE 13:
Proactive and reactive site and desk-based assessments

Figure 14 shows the number of assessments undertaken by the regulator in Q4 2020/21 by sector. This quarter, 52% of our assessments were for quarries, 15% for mines, 31% for tunnels and 1% for alluvial mines.

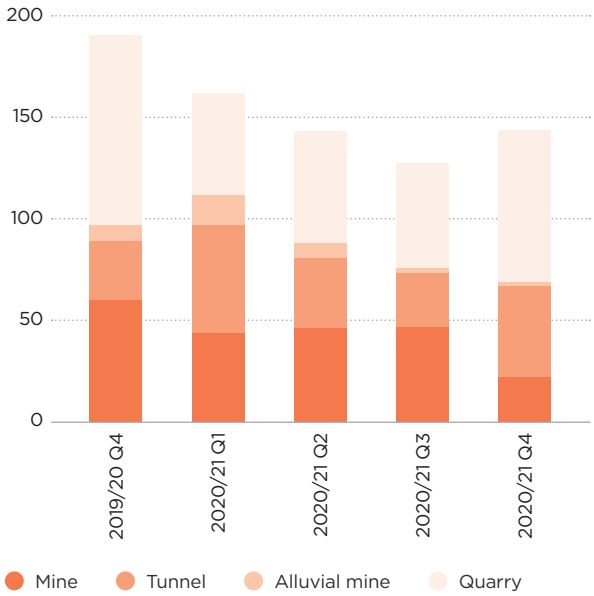

FIGURE 14:
Assessements by sector

3.3 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 15 and 16 show the number of enforcement actions issued in Q4 2020/21 by notice type and by sector. This quarter, a total of 305 enforcement actions were issued. Of those, 5% of were prohibition notices, 29% were improvement notices, 62% were directives and 4% were sustained compliance letters. The majority of the enforcement actions were issued to the tunnelling (32%) and quarrying (57%) sectors.

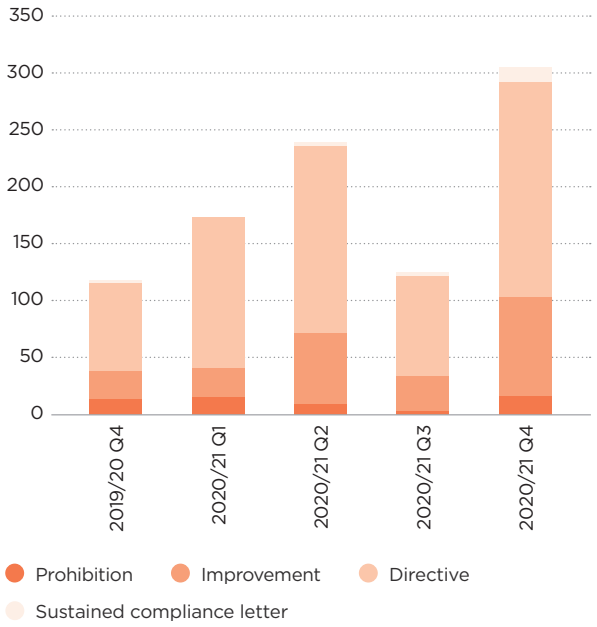

FIGURE 15: Enforcement actions issued by type

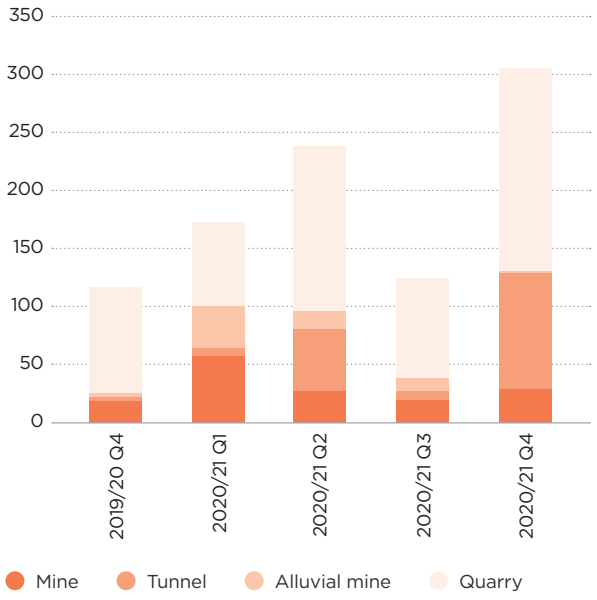

FIGURE 16: Enforcement actions issued by sector

Figure 17 shows the number of enforcement actions issued in Q4 2020/21 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 (21%).

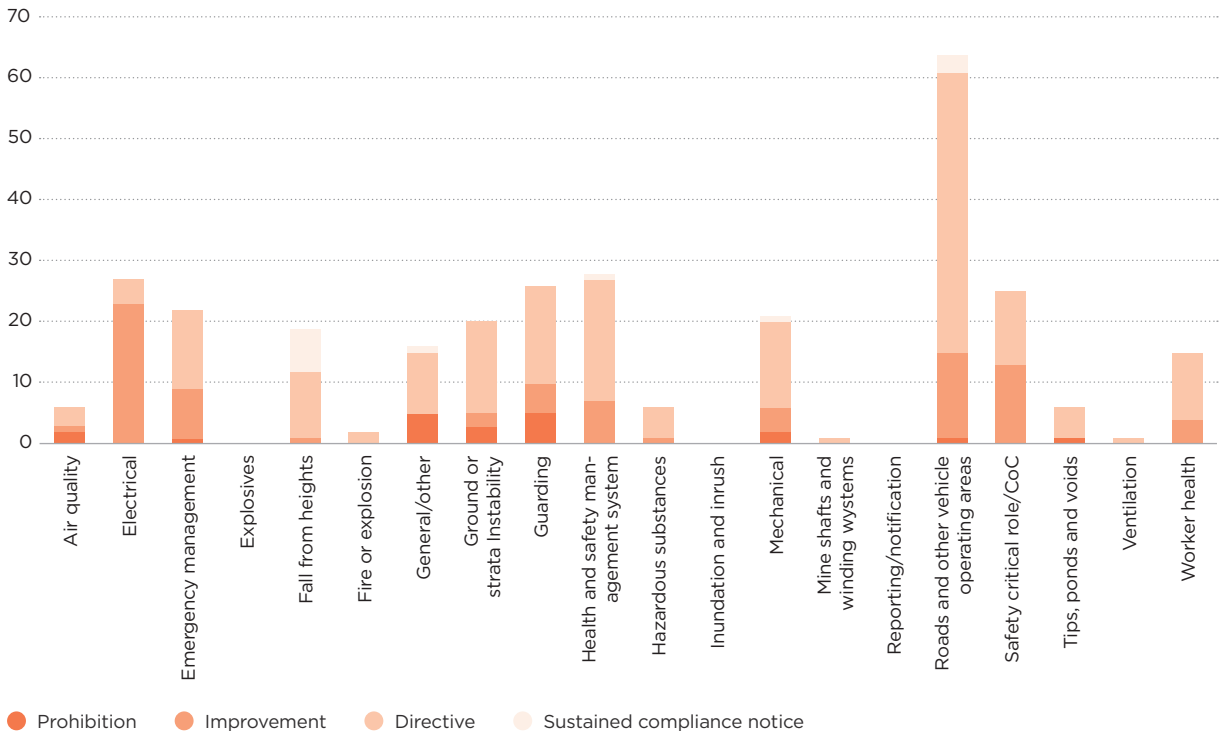

FIGURE 17: Enforcement actions issued by category 2020/21 Q4

Regulator activity comment

The Q4 enforcement activity has increased from Q3. The proportion of enforcement actions has continued to reflect an appropriate mix of prohibition, improvement and directives, over the risk categories.

The restrictions on travel that COVID-19 has caused will impact on the number of site visits and the number of enforcement actions. This will result in some fluctuations of numbers over individual months, and this is likely to continue through to the next quarterly report.

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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