QUARTERLY REPORT

Extractives industry

2019/20 Q3

January to March

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, but of businesses, workers and a wide range of other players in the health and safety system.

Unfortunately Q3 has been a tragic quarter with the death of a worker at a quarry site. All of our sympathy goes to the family, friends and workmates. What is particularly worrying about this fatality is the predictability of it occurring. In the Q2 report, we expressed concerns about the frequency of ADT roll overs and that a significant proportion of serious incidents reported could have resulted in fatalities or serious harm.

It is my belief that the incident could have been avoided or the consequences of loss of control of an ADT mitigated. There will be a full investigation report available in time to share specific learning with industry. But operators should not wait for that to be completed, you should immediately look at the types of incidents that this report shows are occurring and check that you have adequate controls in place to prevent them on your own sites.

We are starting to see consistent patterns in the reporting data. The safety measures we report on are not showing any noticeable improvement and of particular concern to us is the frequency of high potential incidents.

It is our intention to focus on the areas where many of these incidents are occurring and to use the high potential incident frequency measure as a key measure of safety in our industry in future. A sobering thought is that there are currently about 20 to 30 high potential incidents each quarter.

Operators should note the types of incidents occurring throughout industry. They need to understand that they must manage the causal factors contributing to these high potential incidents using the hierarchy of controls. The first consideration is elimination of the risk, then consideration of minimization controls and then only as a final consideration, administrative or PPE controls. Operators must also maintain the controls.

The operators must also consider what may go wrong and ensure that simple human error or simple failures of one control do not result in potential for fatalities or serious harm to workers. Operators should be aware that the bow tie type considerations are obligatory and what the regulator expects from industry.

Our focus in the coming months will be on ensuring that all sites have correctly implemented the hierarchy of controls in the areas of operations where we are getting a high frequency of incidents.

The acceptance of high potential incident investigations that conclude that the only failing will be remedied by training is unlikely.

Paul Hunt
Chief Inspector Extractives

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 event 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

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1.1 Operations

2

Metalliferous opencast mines
Includes one mine under care and maintenance

21

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

6

Metalliferous underground mines
Includes one mine 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)

1,156

Quarries
Number of quarries that have been verified (924) or have notified of an Appointed Manager to WorkSafe (232)

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 1,263 active operations in New Zealand as at the end of March 2020.

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

439

Metalliferous opencast mines

358 FTEs employed by mine operators and 81 FTEs employed by contractors

829

Coal opencast mines

654 FTEs employed by mine operators and 175 FTEs employed by contractors

517

Metalliferous underground mines

414 FTEs employed by mine operators and 103 FTEs employed by contractors

28

Coal underground mines

21 FTEs employed by mine operators and 7 FTEs employed by contractors

97

Tunnels

43 FTEs employed by mine operators and 54 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

3,044

Quarries

Number of workers is known for 669 of the 1,156 quarries that are verified and/or have notified of an Appointed Manager. The total number of workers has been extrapolated for the remaining 487 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 between January and June 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 22 from last quarter.

Figure 1 shows the total hours worked by the mining and tunnelling sectors in Q3 2019/20. The hours are separated into Employees and Contractors.

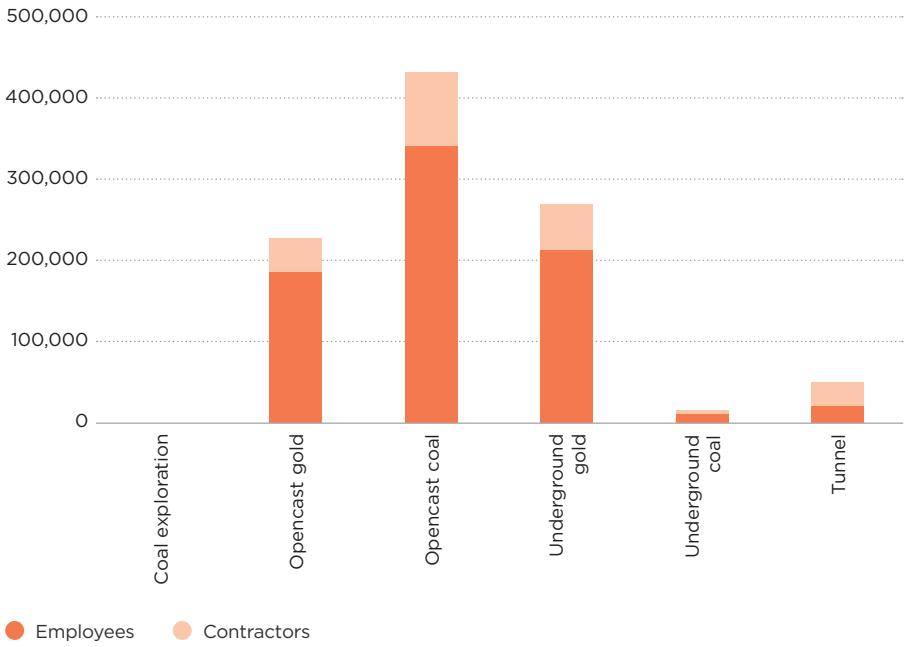

FIGURE 1:
Total hours worked by sector 2019/20 Q3

Figure 2 shows the number of Full Time Equivalents (FTEs) calculated from total hours worked for the mining and tunnelling sectors in Q3 2019/20. The hours are separated into Employees and Contractors.

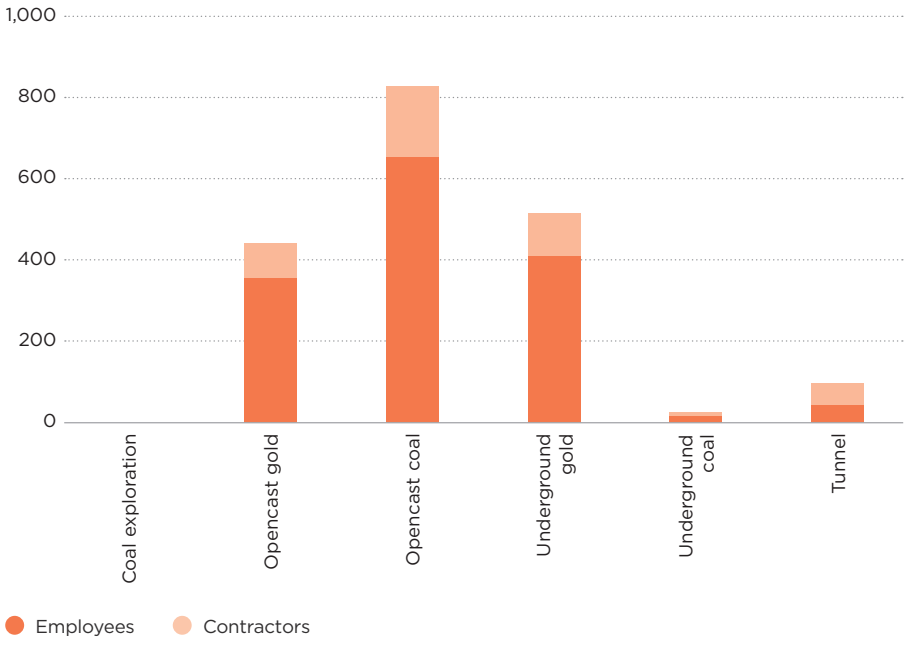

FIGURE 2:
Number of FTEs by sector 2019/20 Q3

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).

Table 1 provides a summary of the total number of CoCs issued by COC type since 2015, and the number of new COCs issued in Q3 2019/20.

COC TYPE	TOTAL NUMBER OF COCs ISSUED 2015 to March 2020	NUMBER OF COCs ISSUED Q3 January to March 2020
A Grade Quarry Manager	314	2
B Grade Quarry Manager	466	12
A Grade Opencast Coal Mine Manager	69	
B Grade Opencast Coal Mine Manager	62	
A Grade Tunnel Manager	31	
B Grade Tunnel Manager	68	
Site Senior Executive	61	
First Class Coal Mine Manager	19	
First Class Mine Manager	20	1
Coal Mine Deputy	40	
Coal Mine Underviewer	32	
Mechanical Superintendent	24	
Electrical Superintendent	17	
Ventilation Officer	3	
Mine Surveyor	10	
Site Specific	1	1
Winding Engine Driver	3	
Total	1,240	16

TABLE 1: Certificates of Competence issued

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 from July 2018 to March 2020 for mine and tunnels (Table 2) and quarries and alluvial mines (Table 3).

MINES AND TUNNELS	2018/19 Q1	2018/19 Q2	2018/19 Q3	2018/19 Q4	2019/20 Q1	2019/20 Q2	2019/20 Q3
Number of notifiable events	18	16	26	13	20	21	24
Number of operations that notified events	10	9	10	7	10	13	10

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

Nineteen individual mines and tunnels from a total of 36 reported notifiable events in the past 12 months.

QUARRIES AND ALLUVIAL MINES	2018/19 Q1	2018/19 Q2	2018/19 Q3	2018/19 Q4	2019/20 Q1	2019/20 Q2	2019/20 Q3
Number of notifiable events	13	11	23	9	22	16	22
Number of operations that notified events	12	10	21	9	20	16	14

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

Forty-seven individual quarries and alluvial mines from a total of 1,263 reported notifiable events in the past 12 months.

Figure 3 shows the number of notifiable events reported to WorkSafe by sector from July 2018 to March 2020.

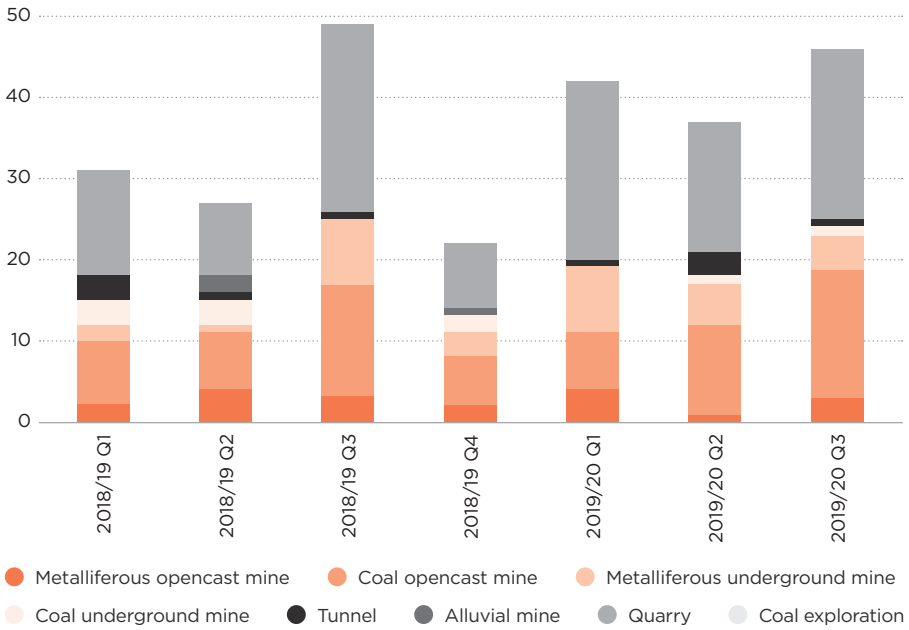

FIGURE 3: Notifiable events by sector

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 2017 to March 2020. 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 7.8 which tells us that the frequency of injuries requiring medical treatment remains high.

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.

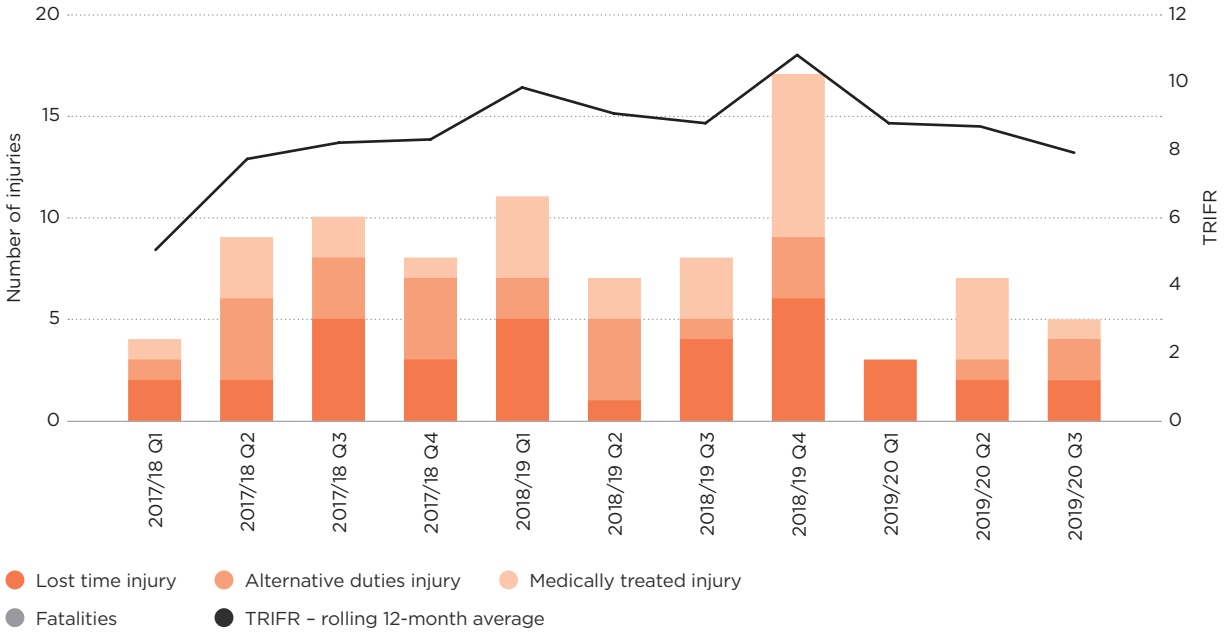

FIGURE 4: TRIFR – mines and tunnels

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 2017 to September 2019. 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 2017 and December 2018 was over $21,000 per injury.

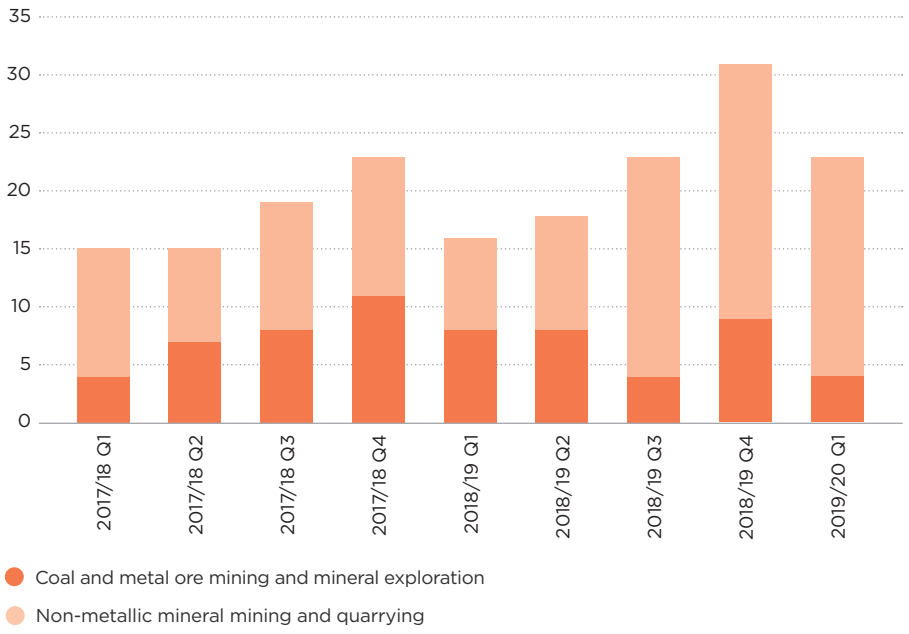

FIGURE 5:
Number of injuries resulting in more than a week away from work

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 58 percent of notifiable events in the mining and tunnelling sectors in the past 12 months have occurred in relation to vehicles and plant (36%), and fire, ignition, explosion or smoke (22%). These two categories are broken down in more detail in the following section. Sixty-seven 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 (44%) and an implosion, explosion or fire (23%).

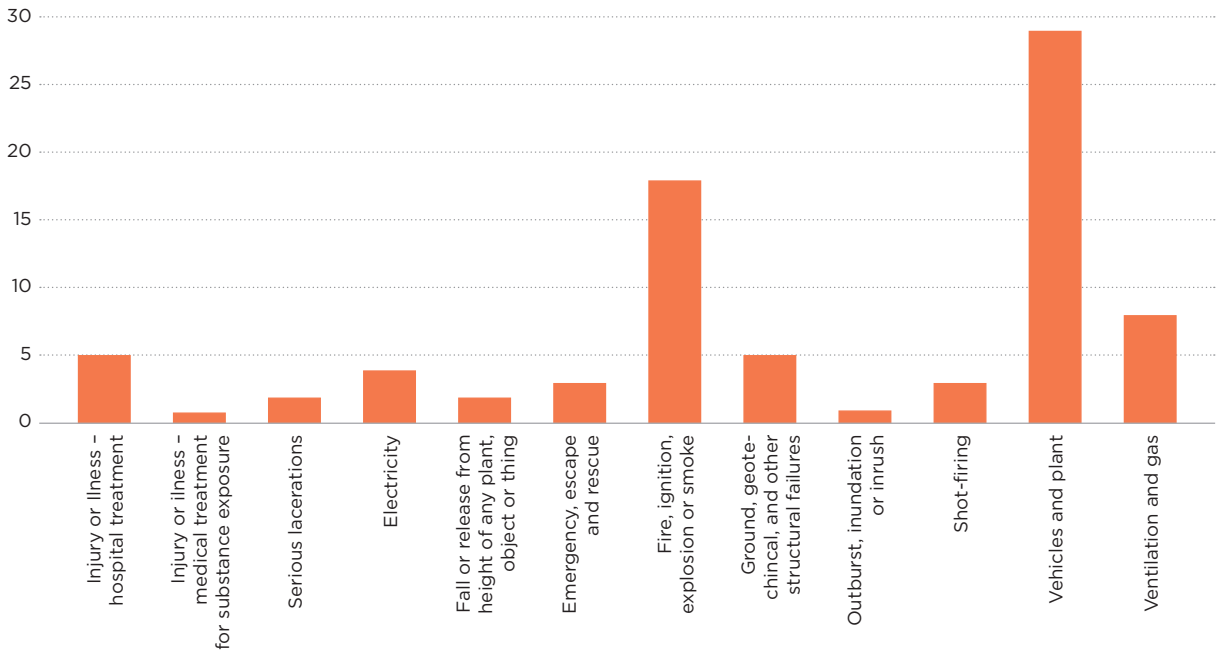

FIGURE 7: Mines and tunnels notifiable event categories for the previous 12 months

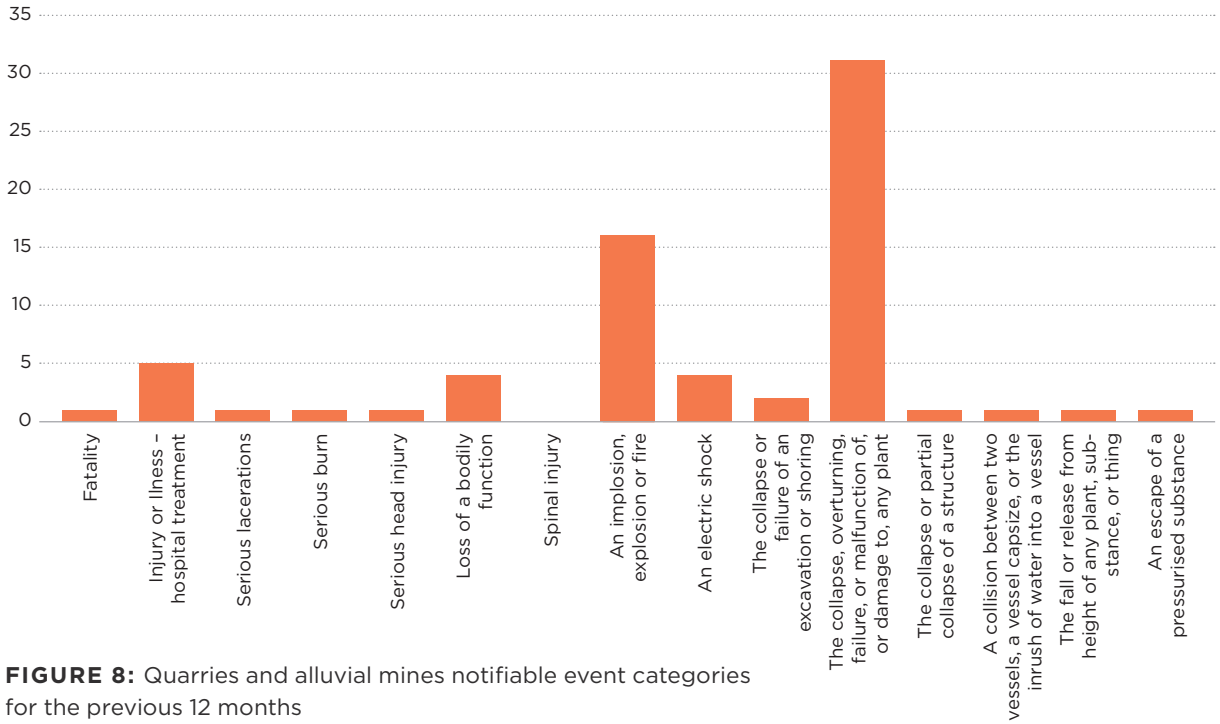

FIGURE 8: Quarries and alluvial mines notifiable event categories for the previous 12 months

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, 67% involve fires on plant, mobile plant or in buildings associated with mining or tunnelling activities, and 27% involves spontaneous combustion. The vehicle and plant-related notifiable events involve overturning of mobile plant (31%), collision of mobile plant with other plant (28%), unintended movement or brake failure (24%), breach of a safety berm or windrow (10%) and tyre bursts (7%).

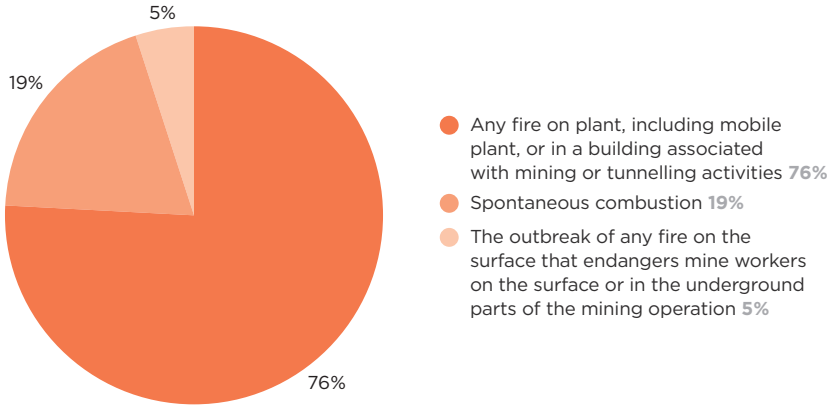

FIGURE 9: Fire, ignition, explosion or smoke-related notifiable event sub-categories

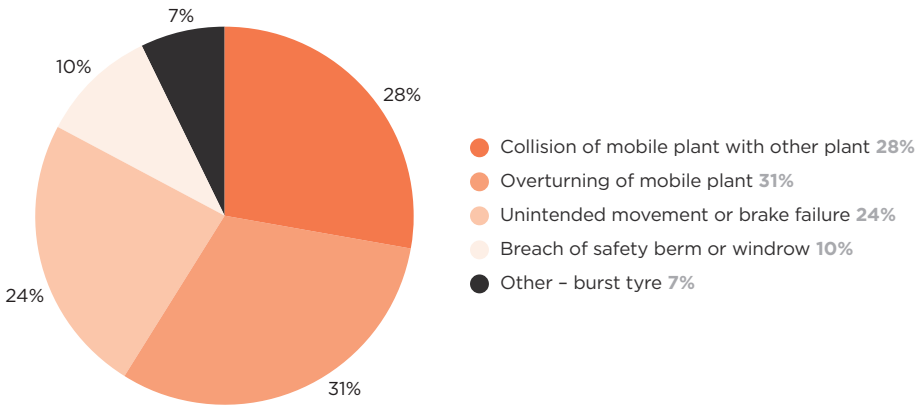

FIGURE 10: Vehicles and plant-related notifiable event sub-categories

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 53% 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% 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

We are now into our third quarter of reporting and what we can be more confident about is how many, and what type of incidents are occurring. The distribution of incidents in the reporting categories is very consistent. The high frequency of ADT or other vehicle related incidents is not changing. In general we are seeing no real improvement in any of the other reported measures.

What is very concerning is the number of high potential incidents reported each period. These are events reported to WorkSafe that were assessed to have resulted in high consequence or had high potential consequence, and as New Zealand legislation does not define this we will use the following definition from the Queensland Mining and Quarrying Safety and Health Act 1999:

> 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.

Could it be reasonably expected or conceivable that in similar circumstances a worker or workers could be killed, for example, by any roll over of vehicle, collision of vehicle, loss of control of a vehicle, contact with electrical conductors, any fire underground, fall from heights, tyre explosion, exposure to other sudden release of pressure, struck by object, collapse of ground or strata, explosive related incident, or catastrophic mechanical failure?

WorkSafe have reviewed the incidents notified and determined which should fall into this high potential category (the Q1 and Q2 reports referred to them as Safety Events of Note, going forward we will refer to them as **High Potential Incidents**). There were 19 high potential incidents for Q1, then 28 in Q2, and now 34 in Q3. So we can expect 100 high potential incidents a year. Already we have had one fatality and several serious harm injuries. This is an unacceptably high frequency for an industry with only 5000-6000 persons working within it.

After identifying the areas where high potential incidents are occurring, operators should carefully consider the management of the related risks by considering the treatment of them using the hierarchy of controls. WorkSafe are disappointed with the number of investigations of high potential incidents received from operators where administrative controls are all that are identified to prevent reoccurrence. The controls required for the prevention of high potential incidents are expected to be highly reliable and should not fail as a result of human error. Operators should first consider if elimination is possible, and if it is not, then consider minimisation by use of substitution, isolation, or engineering controls. The use of administrative controls or PPE is the last consideration.

It is also disappointing that the investigations submitted after high potential incidents too often attribute blame to workers. Human error is always foreseeable. The operator has a responsibility to ensure that any foreseeable error does not result in serious consequence with regard to the health and safety of the workers. There is an expectation that operators consider what will happen if any control fails and what mitigation controls are in place to prevent the serious consequence (the bow tie approach to determining controls). Examples of consequence mitigation are windrows built and maintained to design, ensuring operators are wearing seat belts, Roll Over Protection (ROP) and Fall On Protection (FOP) being compliant, emergency run-offs in place, and emergency response plans and equipment in place, tested and readily available.

WorkSafe has an expectation that operators will review their existing controls for their adequacy against the hierarchy of controls. It is also expected that potential failure of prevention controls has been considered and that adequate mitigation measures are in place to ensure the health and safety of workers.

2.6 High potential incidents

Table 4 provides a summary of serious notifiable events notified to WorkSafe in Q3 2019/20. The summaries are an abridged version from the operator's notification report.

HIGH POTENTIAL INCIDENTS – 2019/20 Q3

Incident date	Summary	Considerations
Jan 20	While fitting a hydraulic steering cylinder to a 777 dump truck, the steering cylinder over balanced and crushed two fingers on a workers right hand. Worker was taken to the doctor who put in four stitches. Worker returned to work. Finger became infected and required specialist medical attention and loss of portion of finger	– Equipment maintenance – Tool selection – Job planning – Return to work policy
Jan 20	Contact between 777D Haul truck and D10 dozer in tip zone resulting in minor damage. No injuries. No positive communication	– Roads and operating surfaces – Traffic management plan – Communication – Training
Jan 20	While changing tyre of dump truck using tele-handler, lost control of the tyre which dropped and ran away hitting and damaging nearby light vehicle. Using forks, no tyre handling attachment	– Equipment maintenance – Tool selection – Job planning
Jan 20	Blast resulted in fly-rock exiting the boundary of the exclusion zone and striking a residential property causing damage to the roof, windows and walls.	– Explosives management plan – Isolation – Training
Jan 20	While walking alone around the overburden dump, a worker stepped onto soft material and sank up to their waist in fine grey sand. Required rescuing, did not have radio, used cell phone to sound alarm – could not climb out unassisted. Mine workers used excavator to assist escape	– Inspection – Exclusion zones – Job planning – Working alone procedure
Jan 20	Worker touched live conductor while removing fuses for isolation	– Isolation systems – Fit for purpose electrical equipment
Jan 20	A30F Articulated Dump truck, cab overturned while tipping due to load redistribution when tipping. There was no injury or significant damage to plant. Not notified correctly	– Roads and operating surfaces – Traffic management plan – Training
Jan 20	Volvo ADT entered managed fill tip head and while reversing right rear tyres sunk about one metre into sticky material and tray has slowly turned onto its side. The cab remained upright. Operator not hurt	– Roads and operating surfaces – Traffic management plan – Training

HIGH POTENTIAL INCIDENTS – 2019/20 Q3

Incident date	Summary	Considerations
Jan 20	While operating digger on road maintenance ADT made contact with digger as it attempted to pass by. ADT operator failed to adhere to digger operator instructions. The side window of the digger cab was broken. No injuries.	– Roads and operating surfaces – Traffic management plan – Training
Feb 20	Dump truck has breached a barrier. No damage to truck, no injuries or other damage.	– Roads and operating surfaces – Traffic management plan – Training
Feb 20	Loader while working in vicinity of processing plant has made contact with structure causing it to fall to the side. No injury, damage to fixed plant.	– Roads and operating surfaces – Traffic management plan – Training
Feb 20	Underground mobile plant fire. Oil filter line has split in main engine bay and sprayed oil onto the turbo resulting in fire in engine bay that was noticed by the Operator. Machine shut down and isolated.	– Maintenance – Fire and explosion – Emergency management
Feb 20	Cleaner reported receiving electrical shock from contact with drier and sink. No injuries sustained. The RCD was not activated.	– Electrical maintenance – Routine test and tag
Feb 20	A large Dump truck has lost control going downhill on a wet road surface and run into the safety berm where it was stopped. The weather conditions were very dry but the water truck was watering roads for dust suppression at the time.	– Roads and operating surfaces – Training
Feb 20	Coupling on rotating mill catastrophically failed, sending shrapnel 50m. Inadequate isolation from maintenance inching drive.	– Equipment maintenance – Isolation – Training
Feb 20	Small digger was performing descaling inside a processing tank (TK09). A large piece of scale dislodged running down the boom, hitting the roof of digger. No injuries sustained to the operator or spotter.	– Equipment maintenance – Job planning – Risk assessment – Training
Feb 20	Surface void created adjacent to main highway road due to tunnel boring activity which loosened basalt rubble in an old lava void, exposing the void to the surface. Road lane closure.	– Ground and strata – Inspection/monitoring – Risk assessment
Feb 20	While walking on surface, worker stepped into a water trap hidden by grass. Fractured leg.	– Inspection – Lack of hazard identification – No barriers – Inspection
Feb 20	789C dump truck reversed into dozer on tip head. Minor damage, no injuries.	– Roads and operating surfaces – Traffic management plan – Training
Feb 20	Fitter completing maintenance on pump strikes finger with hammer. Fractured finger.	– Job planning – Tool selection – Training
Feb 20	Worker removing wear plate was hitting steel with a hammer when a piece of steel about 14mm long chipped off and went through his clothing into the scrotum. Required surgical removal of the object.	– Job planning – Tool selection – Training
Feb 20	A worker operating a screening plant exited the loader to check why the conveyor stopped and was struck on the back by piece of oversize material which had rolled off the belt. Worker sustained bruising.	– Risk assessment – Guarding – Isolation
Feb 20	Worker was using a hydraulic jack system when coupling catastrophically failed and ball bearing has released and entered the workers arm. Worker evacuated to hospital.	– Job planning – Tool selection – Equipment maintenance – Training

HIGH POTENTIAL INCIDENTS – 2019/20 Q3		
Incident date	**Summary**	**Considerations**
Feb 20	An uninitiated detonator was found in processing plant in feed belt to the Hammer mill. Worker had gone to clear the metal magnet and found the detonator.	– Explosives management plan
Feb 20	Loader and motor scraper collide while unloading.	– Roads and operating surfaces – Traffic management plan – Training
Mar 20	A loaded underground haul truck was being trammed out of the mine when a passing vehicle notified that there were sparks coming from the back of the truck. The truck driver has pulled over and identified two small flames near the high speed shaft bearing. The flames were quickly put out with a fire extinguisher, AFFF was not activated. A full mine emergency was not initiated.	– Maintenance – Fire and explosion – Emergency management
Mar 20	Underground loader made contact with light vehicle. Loader allowed truck to pass but was unaware of LV following and pulled out onto road making contact with LV. The LV sustained minor damage to front left hand side panel. No injuries were sustained due to the incident.	– Roads and operating surfaces – Traffic management plan – Training
Mar 20	Truck and trailer backing into tip off area. As the trailer was raised to tip off load, it rolled over onto its side.	– Roads and operating surfaces – Traffic management plan – Training
Mar 20	Loader collided into a light vehicle when backing. No one injured.	– Roads and operating surfaces – Traffic management plan – Training
Mar 20	Articulated truck tipping off soil, trailer started leaning and then fell onto left hand side, coming to rest on previously dumped load beside it.	– Roads and operating surfaces – Traffic management plan – Training
Mar 20	Dump truck rear wheels made contact with safety bunding causing the back end of the dump truck to flick out into on-coming traffic (another dump truck).	– Roads and operating surfaces – Traffic management plan – Training
Mar 20	An ADT has left haul road and run over top of bund and dropped onto bench below. The worker was thrown from vehicle when it landed on the bench and catapulted onto the next bench below. The worker sustained fatal injuries.	– Roads and operating surfaces – Traffic management plan – Training
Mar 20	A 1.7 tonne excavator has made contact with a live cable while cleaning an area, no wires of the cable were exposed.	– Job planning – Isolation – Training
Mar 20	Excavator tipped into a pond while operating. No injuries.	– Roads and operating surfaces – Traffic management plan – Training – Tips ponds and voids

TABLE 4: High potential incidents – 2019/20 Q3

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 5 shows the range of assessments undertaken in Q3 2019/20 by sector.

		ASSESSMENTS	MINE	TUNNEL	ALLUVIAL MINE	QUARRY
Preventative	Site-based	Targeted assessments				
		Regulatory compliance assessments				
		Site inspections	15	2	21	14
		Targeted inspections				
	Desk-based	PHMP/PCP review		41		
		Mine plan review	8			
		High risk activity	4			
Reactive	Site-based	Concerns – inspection				1
		Notifiable events – inspection	3			6
	Desk-based	Concerns – desk-based				4
		Notifiable event – desk-based	12	1		22

TABLE 5: Proactive and reactive site and desk based assessments conducted in Q3 2019/20

Figure 11 shows the number of proactive and reactive site- and desk-based assessments undertaken by the regulator in Q3 2019/20. This quarter 40% of our activities were site-based, and 68% of activities were proactive.

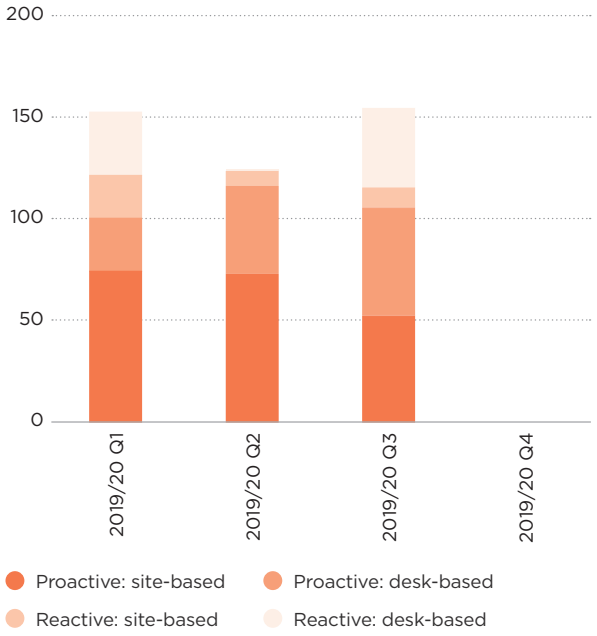

FIGURE 11:
Proactive and reactive site and desk-based assessments

Figure 12 shows the number of assessments undertaken by the regulator in Q3 2019/20 by sector. This quarter, 30% of our assessments were for quarries, 29% for tunnels, 27% for mines and 14% for alluvial mines.

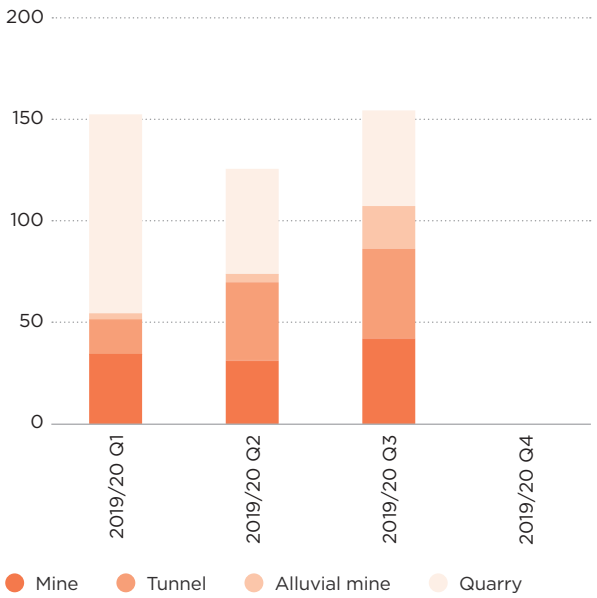

FIGURE 12:
Assessements by sector

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 13 and 14 show the number of enforcement actions issued in Q3 2019/20 by notice type and by sector. This quarter, a total of 124 enforcement actions were issued. Of those, 8% of were prohibition notices, 10% were improvement notices, 81% were directive letters and 1% were sustained compliance notices. The majority of the enforcement actions were issued to the mining (40%) and quarrying (46%) sectors.

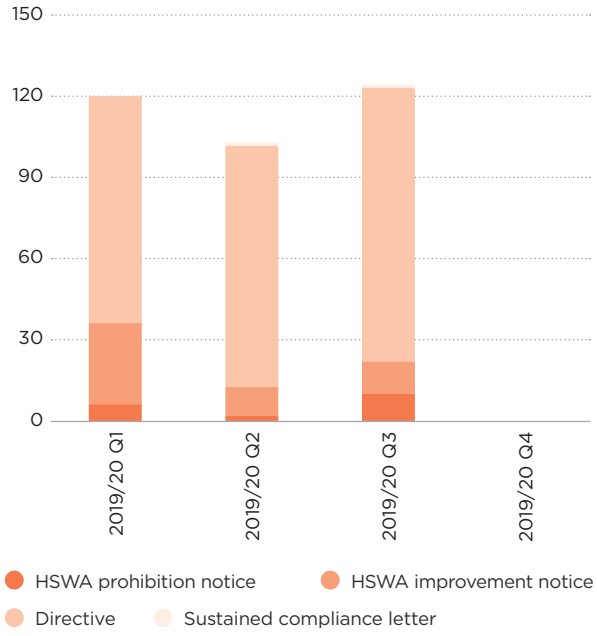

FIGURE 13: Enforcement actions issued by type

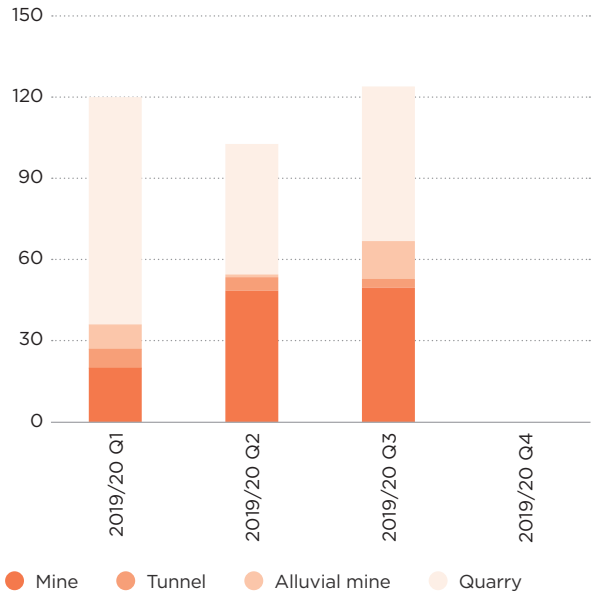

FIGURE 14: Enforcement actions issued by sector

Figure 15 shows the number of enforcement actions issued in Q3 2019/20 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 (23%).

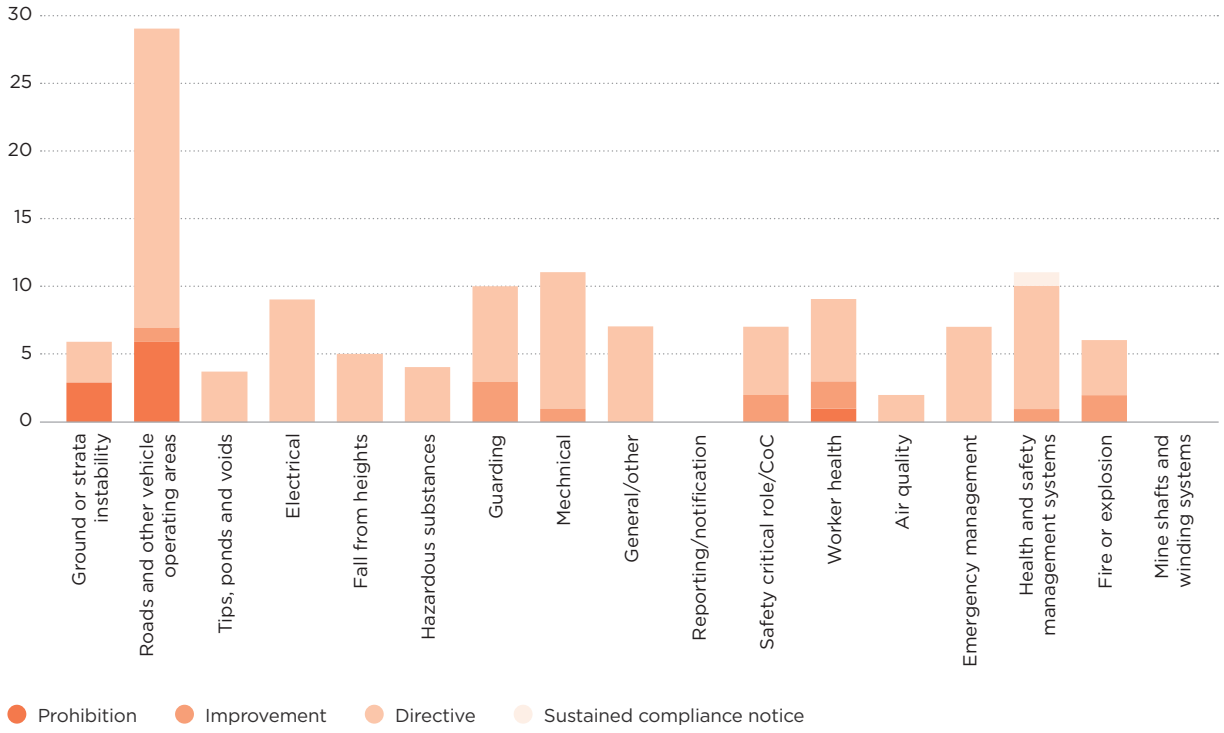

FIGURE 15: Enforcement actions issued by category 2019/20 Q2

Regulator activity comment

The regulator activities for the quarter broadly align with the focus areas determined by notifiable incidents. There have been multiple assessments focusing on roads and other vehicle operating surfaces across both mines and quarries through a mixture of assessment types. The number of PHMP's and PCP's assessed was unusually high and is due to submissions by two large Auckland tunnelling projects.

WorkSafe is also increasing its focus on work related health across all sectors, and this is reflected in the enforcement activity undertaken by the extractives inspectors. Sites are expected to have identified health hazards and where required, undertaken exposure or health monitoring.

The ratio of prohibition to improvement notices or directives demonstrates that WorkSafe are currently using a mixture of education, engagement and enforcement. Following the quarterly report, the focus on roads will not change, but operators should note the nature and the number of enforcement actions may increase if industry has not taken action in regards to the issues raised in the commentary in this report on the frequency of high potential incidents.

The final days of the quarter saw the commencement COVID-19 Alert Level 3 and 4 restrictions. In the last week of the quarter, the regulator reviewed COVID-19 management plans for operations in the extractives sector that continued as essential businesses. The activity by operators and the regulator in the next quarter will be dependent on the progression of alert levels.

Disclaimer

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