



**NSW
Resources
Regulator**

Quarterly safety report

JANUARY TO MARCH 2019



ABOUT THIS REPORT

This quarterly health and safety performance report has been prepared by the NSW Resources Regulator for mining operators in NSW. It contains industry and sector specific information. Where-ever possible, trends and patterns have been identified.

The report references sector information about the number of 'active mines'. Active mines have the status: open, intermittent, mines under care and maintenance, open tourist mines, planned and small-scale titles that are current or pending.

The report also contains information on matters of concern to the NSW Resources Regulator including controls and actions that may be implemented to prevent or reduce the likelihood of future safety incidents.

Operators should use the sector specific information, emerging issues and good practice examples presented in this report to assist them in improving safety management systems and undertaking risk assessments at their sites.

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (May 2019). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the NSW Department of Planning and Environment or the user's independent advisor.



Contents

EXECUTIVE SUMMARY	5
<hr/>	
NATIONAL AND INTERNATIONAL SIGNIFICANT EVENTS	7
<hr/>	
Australia	7
International	9
New Zealand	9
United States of America	9
INDUSTRY SAFETY PROFILE	11
<hr/>	
Snapshot of mines by sector in NSW	11
Safety incident notifications	12
COMPLIANCE ACTIVITIES	15
<hr/>	
Safety prosecutions	15
Enforcement actions	15
Safety incidents of note	16
Safety notices issued	17
Safety notices and assessments conducted	19
Safety assessments by sector	23
Targeted assessment program	24
SAFETY ISSUES AND GOOD PRACTICE EXAMPLES	25
<hr/>	
SECTOR PROFILES	28
<hr/>	
COAL SECTOR	29
<hr/>	
Coal sector safety profile	29
Coal sector compliance activities	31
Coal sector safety spotlight	35
LARGE MINES AND QUARRIES	36
<hr/>	
Large mines and quarries safety profile	36

Large mines and quarries compliance activities.....	38
Large mines and quarries safety spotlight.....	41
SMALL MINES AND QUARRIES	42
<hr/>	
Small mines and quarries safety profile	42
Small mines and quarries compliance activities	44
Small mines safety spotlight	47
OPAL MINES	48
<hr/>	
Opal mines safety profile	48
Opal mines compliance activities.....	49
PETROLEUM AND GEOTHERMAL	50
<hr/>	
Petroleum and geothermal safety profile.....	50
Petroleum and geothermal compliance activities	51
EXPLORATION	52
<hr/>	
APPENDICES	53
<hr/>	
Appendix 1. NSW Safety incident notification legislation.....	53

Executive summary

This report was prepared by the NSW Resources Regulator to assist mine and petroleum site operators in meeting their obligations under relevant work, health and safety legislation including the *Work Health and Safety (Mines and Petroleum Sites) Act 2013*. It is also a way in which the NSW Resources Regulator monitors progress in implementing its risk-based [Incident Prevention Strategy](#).

As a high-hazard regulator, we focus on compliance with legislative requirements associated with the principal mining hazards and other high-risk hazards including mechanical, electrical and explosives.

As well as providing an overview of incidents across the mining industry, this report looks at the safety performance and regulatory activities of six sectors defined by the NSW Resources Regulator: coal, large (non-coal) mines and quarries, small mines and quarries (including gemstones), opal mines, petroleum and geothermal sites, and exploration sites.

This report provides information on significant mining events in Australia and globally, summarises safety incident notifications, compliance activities and outcomes for the current quarter, that is quarter three in the financial year 2018-19. This report covers a 15-month period from January 2018 to March 2019 for selected measures.

In summary:

- There were no mining related fatal injuries in NSW between January and March 2019.
- In the current quarter, the NSW Resources Regulator received a total of 514 safety notifications. This represents an increase of 10% when compared to the same period a year before. Most notifications received in the current quarter (59%) relate to high potential incidents, and clear majority of notifications received (77%) were from coal mines.
- From January through March 2019, the NSW Resources Regulator finalised one safety related prosecution and commenced four major safety investigations.
- The NSW Resources Regulator issued a total of 451 safety notices between January and March 2019. More than half (59%) of safety notices were improvement notices, 29% were written notice of matters and 11% (49 of 451) were prohibition notices. This equates to an average of one prohibition notice issued for approximately every five improvement notices.
- 42% of safety notices this quarter were issued to coal mines, 29% of safety notices issued in large mines and 25% of safety notices issued in small mines. Collectively these three accounted for 96% of all safety notices issued this quarter.

- For each quarter, over the past five quarters, regulatory effort across all sectors focused predominantly on proactive programs with the NSW Resources Regulator conducting, on average, 512 proactive assessments (activities not related to incidents and complaints) each quarter. This represents on average approximately 54% of all assessments. However, as a proportion of all assessments this quarter, 41% were proactive in nature. The higher proportion of reactive assessments in the current quarter reflects the compliance focus during the period on targeted intervention program planning. This included desktop reviews of principal hazard management program plans.
- This current quarter, the NSW Resources Regulator conducted eight targeted assessments under its proactive assessment program (a risk-based approach for assessing principal mining hazard management practices and procedures in NSW mining operations).
- During this quarter two stop work orders were issued at two mines.
 - [Young Mining Company Proprietary Limited](#) mine operator of Thuddugra Mine was issued a stop work order to prevent a serious risk to health and safety of workers at the mine operating plant and vehicles because of potential exposure to naturally occurring asbestos.
 - [Wongawilli Coal Pty Ltd](#) mine operator of Wongawilli Colliery near Appin. The stop work order was issued following a review of prohibition notices, compliance action taken by the NSW Resources Regulator in response to fire risk on conveyers and safety incidents reported by the mine including roof falls and spontaneous combustion of accumulated material under a conveyer. The work order requires the mine operator to address issues relating to strata control and rectification works to be undertaken on the mine conveyor system.



National and international significant events

The NSW Resources Regulator is committed to sharing safety information about significant mining events and fatalities with a view to increasing industry awareness about mine safety and regulatory matters. This list is not exhaustive but represents information gathered as part of the NSW Resources Regulator’s ongoing publication monitoring process. Fatalities and significant events from January to March 2019 have been included.

The criteria for selecting articles is their relevance to equipment and processes commonly used across the NSW mining industry.

Australia

FATAL INJURIES

NEW SOUTH WALES

For this quarter, between January and March 2019, there were no mining related fatal injuries in the NSW mining industry.

OTHER STATES

Queensland

There was one fatal injury reported in this quarter, regarding an incident that occurred on 31 December 2018. An experienced bulldozer driver was fatally injured at an open cut coal mine when the vehicle went over the bench’s crest and rolled 20 m down a slope.

Further details are available in [Mines safety alert no. 362](#).

DANGEROUS INCIDENTS

TABLE 1. NSW RESOURCES REGULATOR SAFETY ALERTS AND BULLETINS

Date published	Reference	Title
15 Jan 19	SA19-01	Elevated workbox falls from loader
6 Mar 19	SB19-01	Rise in dozer incidents putting operators at risk
12 Mar 19	SB19-02	Rise in vehicle incidents raises concerns
18 Mar 19	SB19-03	Welding related electric shocks increase
26 Mar 19	SB19-04	Workers injured by high pressure fluid

OTHER STATES

Queensland

In this quarter, the following four dangerous incidents of note were published in Queensland:

- In January 2019, a dangerous incident occurred on a drill rig which was similar to an earlier incident that had occurred on a different drill rig within the past 12 months. In both cases, while the rig was drilling out the surface casing shoe, the drill string was lifted out of the hole causing significant damage to the rig with the potential for serious injury or a fatality. [Petroleum and gas safety alert 85](#)
- A mine ERZ Controller sustained permanent disabling injuries after their leg was trapped in an airlock door for over five hours. This potentially life-threatening injury also had a high risk of amputation. [Mines safety bulletin no. 180](#)
- A maintenance fitter suffered multiple injuries after being struck by a falling hoist. The chain hoist was being used to lift a segment of gear, within the working load limit of the hoist. Closer examination revealed that the suspension pin holding the hook had pulled through the sides of the suspension plates. [Mines safety bulletin no. 179](#)
- A worker was standing next to a mono pump that pumped 30% sodium meta-bisulphite when a welded flange on the discharge failed. The worker did not sustain any significant injury. [Mines safety alert no. 363](#)

Western Australia

In this quarter in Western Australia, the following three mine safety significant incident reports were published:

- Inspectors have recently observed that some mining operators are not operating, or do not have installed, adequate dust control systems for the crushing, screening and conveying circuits at processing plants.
Inspectors have been told by operators that dust control systems do not effectively suppress or control any dusts and that there is a reluctance to use existing systems because of fear of blocking the plant with wet materials. [MSB No. 157: Minimising dust generation during crushing, screening and conveying](#)
- Recent inspections by the Department identified deficiencies in the inspection, testing, maintenance and use of fume cupboards. Fume cupboards provide local exhaust ventilation for reducing workers' exposure to airborne contaminants such as hazardous fumes, gases and dusts. When installed and used correctly, contaminants within a fume cupboard are captured at their source and are extracted away from workers. [MSB No. 158: Inspection, testing, maintenance and use of fume cupboards](#)
- In October 2018, a working pit floor subsided into a backfilled stope, forming a 13-metre-deep sinkhole. The stope had previously self-mined to near surface and had been backfilled in stages since 2016. At the time of the incident, surface drill and blast activities were occurring in the vicinity. The subsidence event resulted in the loss of an integrated tool carrier and an explosives truck that were parked on the blast pattern. Several charged blast holes were also engulfed in the sinkhole. The vehicles were

unoccupied at the time of collapse; however, four persons were working nearby. [SIR No. 272: Sinkhole in open pit floor engulfs mine vehicles after collapse of backfilled stope](#)

- Workers have been exposed to potentially serious injuries when using hydraulic tools to extract pins from articulated joints on heavy earthmoving machinery. Recent examples include:
 - In September 2018, a 13 kg pulling rod failed and was projected approximately 26 metres during pin cartridge removal from the boom of a front-end loader.
 - In January 2019, a 19 kg pulling rod was projected approximately 25 metres and embedded itself into the workshop wall, during removal of bucket pin on a front-end loader. [SIR No. 273: Near miss when a failed rod ejected from a hydraulic pulling kit](#)
- In February 2019, a fixed conveyor stacker collapsed during normal operation. There were no personnel in the vicinity at the time of the failure. [SIR No. 274: Structural failure of fixed conveyor stacker](#)

International

New Zealand

DANGEROUS INCIDENTS

In New Zealand, one dangerous incident of note was published in this quarter:

- On 21 January 2019, a serious near miss occurred using a 23-tonne excavator to lift and move a concrete box culvert. While manoeuvring under 11kV overhead power lines the excavator arm contacted one of the lines. This caused a fault on the power network that affected some neighbouring properties. The excavator operator and the spotter were unaware at the time that the arm had contacted the line. See [Safety alert](#).

United States of America

FATAL INJURIES

In this quarter, the following five fatal injuries of note occurred in the United States of America mining sector:

- On the 5 January 2019, a 55-year-old contractor received fatal injuries after being pinned between a pneumatically powered airlock equipment door and the concrete rib barrier located near the shaft bottom. See [Fatality alert](#).
- A highly experienced, 56-year-old survey crew member was fatally injured, 14 January 2019 after being struck by a loaded shuttle car. At the time of the incident the worker was measuring the mining height in an entry part of the travel way used by the shuttle car to access the section feeder. See [Fatality alert](#).

- On the 6 March 2019, a 35-year-old contractor with less than one years' experience, was fatally injured after being struck by a relief valve that was ejected from a 500-ton hydraulic jack. The jack was being engaged to contact the frame of a P&H 4100A shovel, when the relief valve was ejected. See [Fatality alert](#).
- A 46-year-old contractor, with three years' experience, was fatally injured on the 7 March 2019 after falling from height onto a cable tray. The deceased was changing drive belts on a log washer motor. See [Fatality alert](#).
- On the 7 March 2019, an experienced, 38-year-old miner, received fatal injuries while working on a pad of a highwall mining machine. The worker was caught in a pinch point between a post and a section of the machine. See [Fatality alert](#).



Industry safety profile

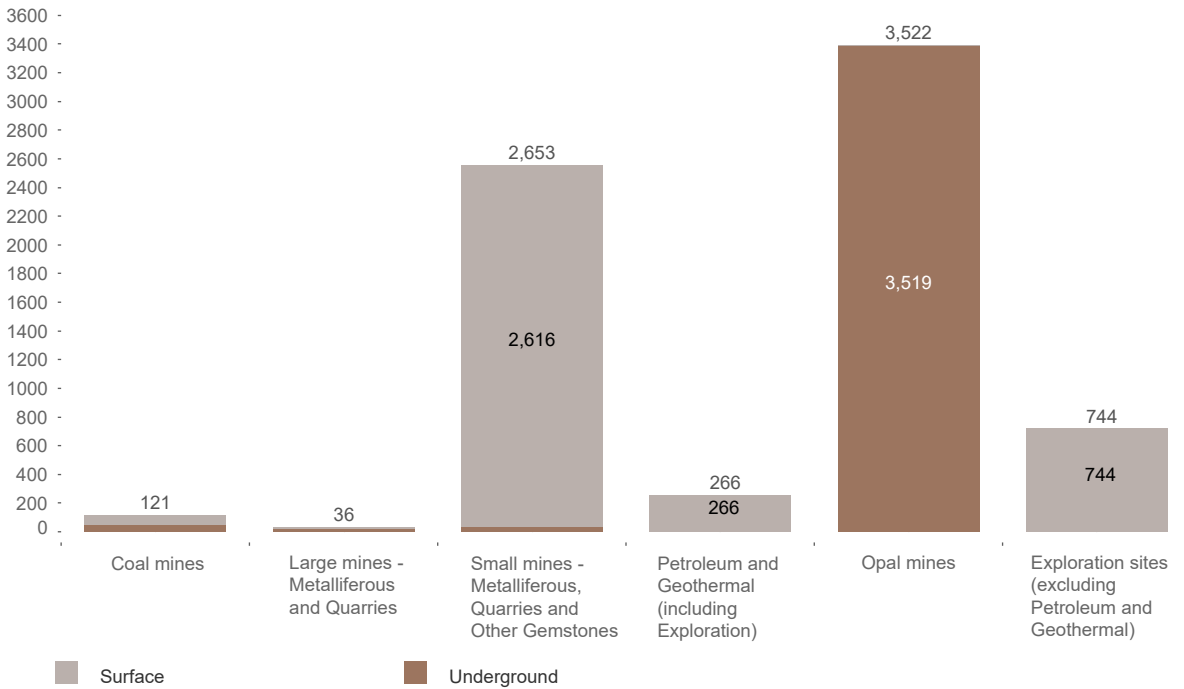
This industry profile is composed of a sector breakdown of the number of active mines and safety incident notifications received by the NSW Resources Regulator for the past 15 months.

Snapshot of mines by sector in NSW

There were 7,342 active mines in NSW this quarter. The graph below shows the number of active mines in each of the six mining sectors. Active mines include open, intermittent, mines under care and maintenance, open tourist mines, planned and small-scale titles that are current or pending.

Collectively, coal and large metalliferous mines and quarries represent approximately 2% of the total number of mines. The small mines sector, which comprises metalliferous mines, quarries and other gemstones, represent around 36%. Almost half (48%) of all active mines are opal mines.

FIGURE 1. NUMBER OF ACTIVE MINES BY SECTOR AS AT 3 APRIL 2019



Safety incident notifications

Under the *Work Health and Safety (Mine and Petroleum Sites) Act 2013*, the *Work Health and Safety (Mines and Petroleum sites) Regulation 2014*, the *Coal Industry Act 2001* and the *Explosives Regulation 2013*, mine operators are required to notify the NSW Resources Regulator about the occurrence of certain types of safety incidents. (See Appendix 1 for legislative detail.)

As presented in the table below, incident rates (numbers of incidents reported per notifying mine) have remained relatively stable over the past 15 months. Over the past five quarters, a total of 205 individual mines reported safety incidents to the NSW Resources Regulator.

TABLE 2. SAFETY INCIDENT NOTIFICATIONS AND MINE REPORTING RATES IN NSW - JANUARY 2018 TO MARCH 2019

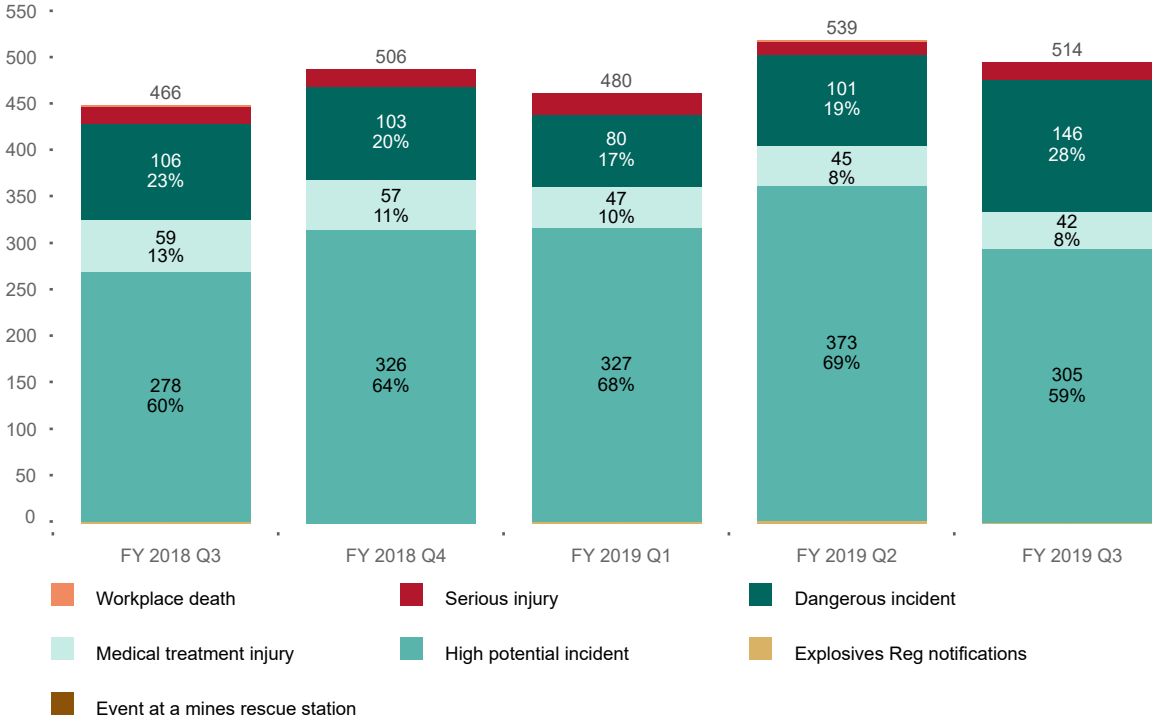
	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Total
Number of incidents notified	466	506	480	539	514	2,505
Mines that notified incidents	106	93	103	109	106	205
Incidents per notifying mine	4.4	5.4	4.7	4.9	4.8	12.2



The graph below shows the number of notifications received over the past five quarters. In the current January - March 2019 quarter (quarter three of the 2018-19 year), the NSW Resources Regulator received a total of 514 notifications. This represents an increase of 10% compared to the same period a year before (quarter three of the 2017-18 year) and a slight decrease of approximately 5% compared to the previous quarter (quarter two of the 2018-19 year).

The clear majority of notifications received in the current quarter (59%) relate to high potential incidents. A further 28% relate to dangerous incidents.

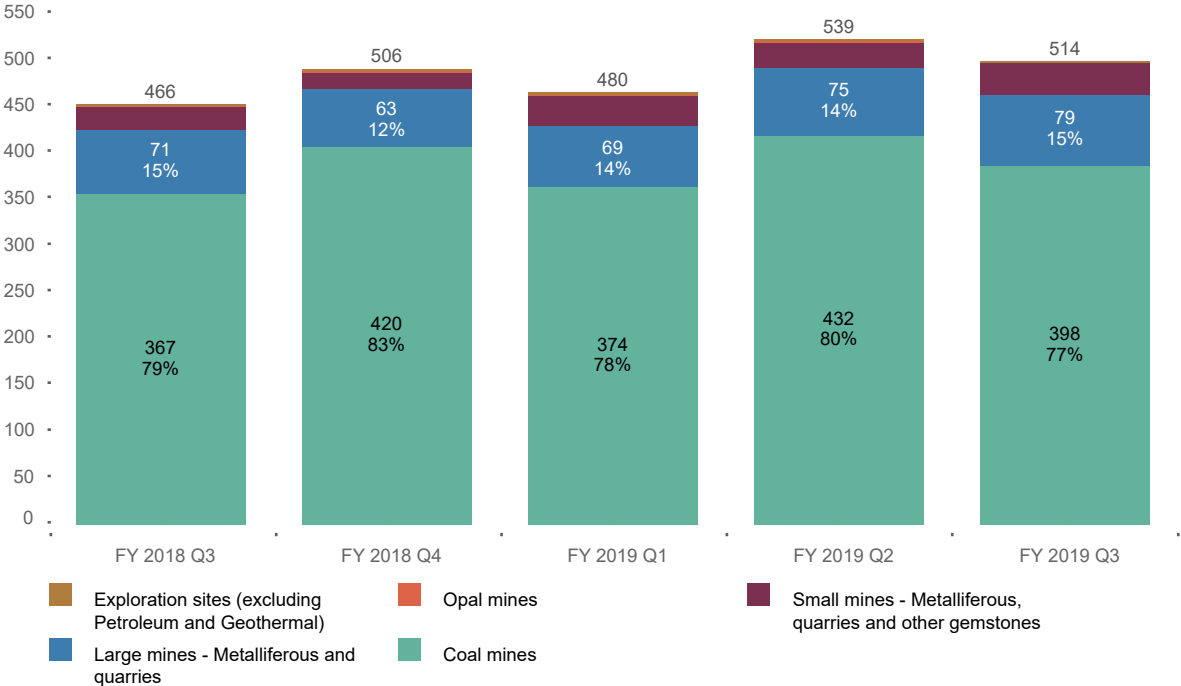
FIGURE 2. INCIDENT NOTIFICATIONS BY TYPE - JANUARY 2018 TO MARCH 2019



As seen in the graph below, in the current quarter (January, February and March 2019), the clear majority of notifications received (77%) were from coal mines. Over the last five quarters, the proportion of notifications by coal mines has fluctuated between 77% to 83%. There was a decrease (3%) in notifications from coal mines, compared to the previous quarter's data (quarter 2 of the 2018-2019 year).

See the sector profile sections of this report for more details.

FIGURE 3. INCIDENT NOTIFICATIONS BY SECTOR - JANUARY 2018 TO MARCH 2019



Compliance activities

The NSW Resources Regulator uses a range of tools to promote and secure compliance in mines in relation to the relevant work, health and safety legislation. These range from inspections, investigations and safety assessments to notices and prosecutions. Detailed information compliance activities, priorities, outcomes and reports are published on our [website](#).

Safety prosecutions

There were no prosecutions commenced by the NSW Resources Regulator in the current quarter (January, February and March 2019).

One [appeal](#) matter was finalised against Macmahon Mining services Pty Ltd relating to a fatal injury at CSA Mine in Cobar, on 16 March 2013 by the NSW Resources Regulator in the current quarter.

Currently the NSW Resources Regulator has nine safety prosecution matters before the courts (all commenced prior to this quarter).

Detailed information on prosecutions, investigations and causal investigations is published on our [website](#).

Enforcement actions

Two stop work orders were issued:

- On 31 Jan 2019, Young Mining Company Proprietary Limited - Thuddungra Mine, near Young was issued with a stop work order regarding safety issues with mobile and fixed plant and asbestos, failure to comply with work, health and safety prohibition and improvement and failure to report two notifiable incidents.
- On 22 March 2019, Wongawilli Coal Pty Ltd operator of Wongawilli Colliery near Appin was issued a stop work order and prohibition notices after the mine operator was identified as not complying with its primary duty of care under work, health and safety legislation.

Safety incidents of note

In the current quarter, the NSW Resources Regulator commenced investigation work into one safety incident of note as detailed in the table below.

Note, incidents, alerts and investigations are published on our [website](#).

TABLE 3. SAFETY INCIDENTS OF NOTE - JANUARY 2019 TO MARCH 2019

Date of incident	Location of incident	Summary of incident
18 Jan	Surface coal mine	During normal operations at an open cut mine, a water cart rolled over, trapping the driver. The worker required assistance to escape the vehicle but suffered no serious injuries. The incident is subject to further investigation .
19 Jan	Underground coal mine	A group of operators in the longwall tailgate were removing a roof support, longwall chock cylinder, using a winch rope. A timber prop dislodged and swung into contact with a nearby worker. The worker was forcibly struck on the upper leg. The worker was transported to the hospital for treatment with severe bruising and swelling and later found to have an upper leg fracture. The incident is subject to further investigation .
5 Feb	Underground coal mine	A worker suffered a broken leg, while carrying out maintenance activities at the maingate of longwall. The worker was using the shearer haulage to pull a flight bar when the rud link on the shearer failed, hitting the worker on the lower part of the leg. The mine has been issued a notice prohibiting this activity under work, health and safety legislation. Further details can be found in investigation information release .
14 Feb	Underground metalliferous mine	A haul truck was descending the decline when it collided with a rigid body truck travelling up the decline. The rigid truck was pushed two metres because of the collision. The driver of the rigid body truck briefly lost consciousness and suffered a head laceration. The mine was issued with a prohibition notice. Further details are in the weekly incident summary .

Date of incident	Location of incident	Summary of incident
21 Mar	Underground coal mine	<p>70 workers were withdrawn from an underground coal mine, due to elevated methane levels. A supervisor detected an increase in gas levels coming from floor cracks on the longwall face and directed workers to retreated to a safe area, in accordance with mine's procedures.</p> <p>The gas levels continued to rise, and all workers were withdrawn from the mine. Gas levels in the longwall return airway, and the main return peaked at dangerous levels, with 16% CH₄ and 16% CO₂ being recorded in the longwall return, and 4% CH₄ in the main return. The incident is subject of a causal investigation.</p>

One investigation information release was published during this quarter ([IIR19-01](#)) 'Shot firing incident damages vehicles' on 21 January 2019. Flyrock from overburden struck three light vehicles which remained in an exclusion zone during blasting at the Albury Quarry on 10 April 2018. There were no injuries, however, workers and members of the public who were in the exclusion zone at the time of the incident were at risk of being seriously injured.



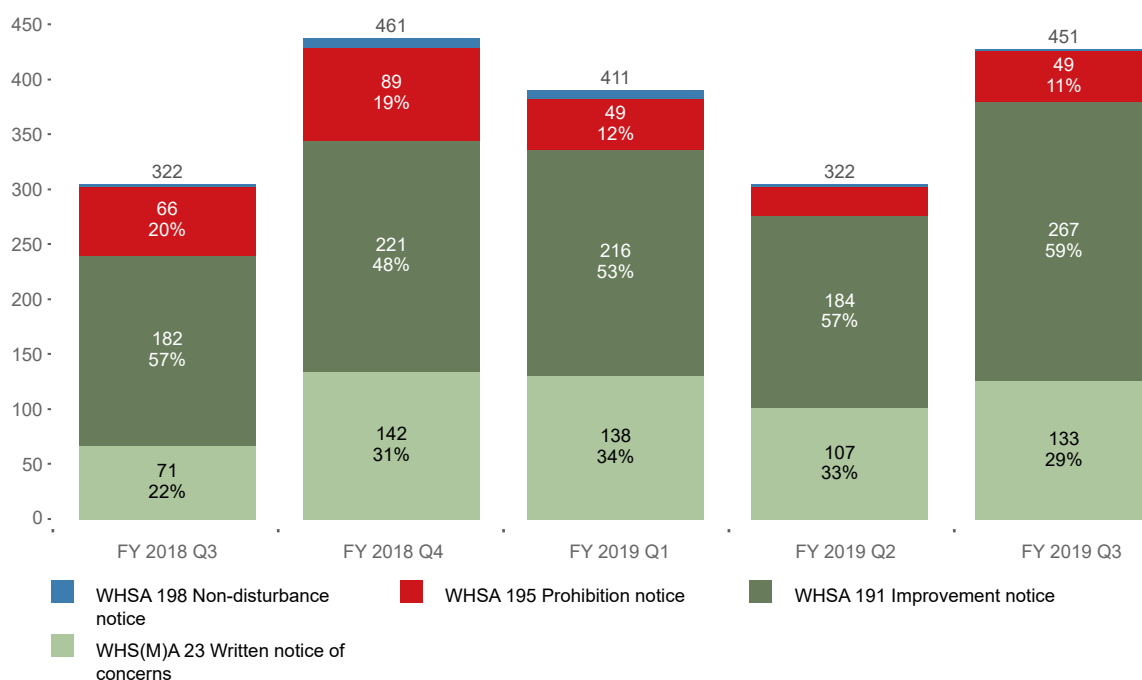
Safety notices issued

Safety notices issued by the NSW Resources Regulator include prohibition and improvement notices, notices of concern (written notice of matters) and non-disturbance notices.

The graph below shows the number and types of safety notices issued in the five quarters since January 2018. No obvious year on year trend is evident as the overall volume of safety notices varies quarter to quarter. The variability seen is, in part, a reflection of the nature of inspection activity.

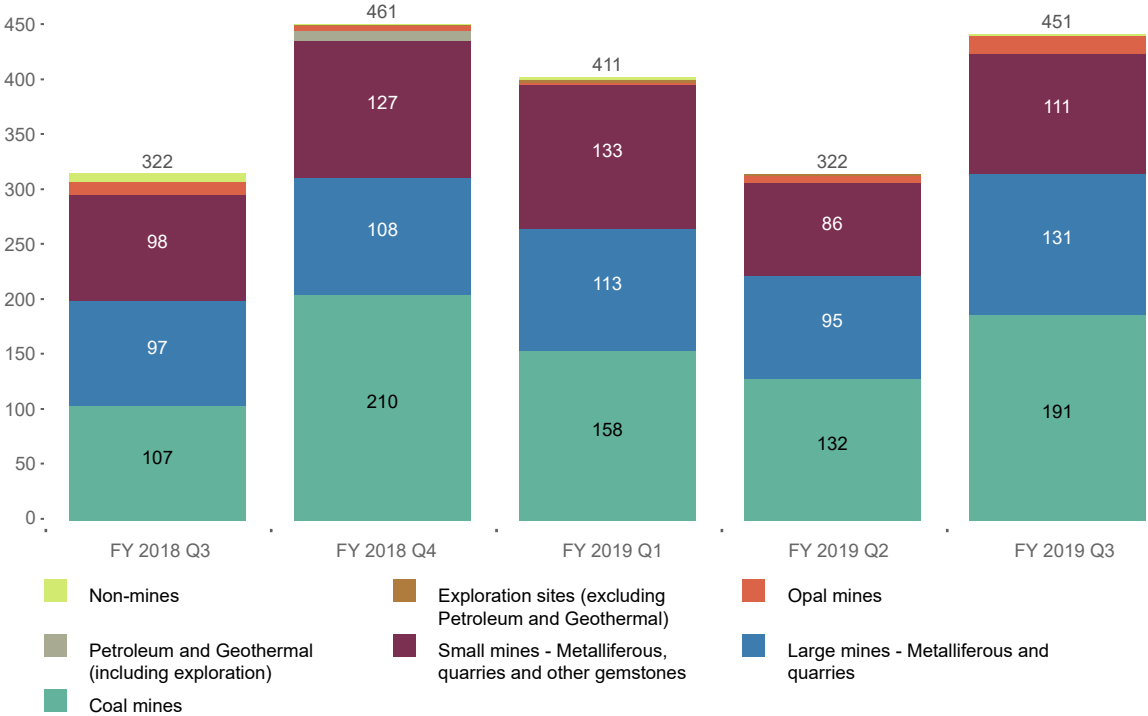
In the current January - March 2019 quarter (quarter three 2018-19), the NSW Resources Regulator issued a total of 451 safety notices. This represents an increase from the 322 safety notices issued in the previous quarter. More than half (59%) of safety notices in the current quarter were improvement notices, 29% were written notice of matters and 11% (49 of 451) were prohibition notices. This equates to the NSW Resources Regulator issuing on average one prohibition notice for approximately every five improvement notices.

FIGURE 4. SAFETY NOTICES ISSUED BY TYPE - JANUARY 2018 TO MARCH 2019



For the January - March 2019 quarter, 42% of safety notices were issued in coal mines, 29% of safety notices issued in large mines and approximately 25% of safety notices issued in small mines. Collectively these three accounted for 96% of all safety notices issued in the current quarter.

FIGURE 5. SAFETY NOTICES ISSUED BY SECTOR - JANUARY 2018 TO MARCH 2019



Safety notices and assessments conducted

The table below lists the assessments conducted by sector and the number of safety notices issued by the NSW Resources Regulator for the current quarter.

In the coal sector, the notice issue rate per assessments conducted was 0.41. In comparison, in the small mines sector, the notice rate was doubled indicating that for every assessment conducted, twice as many notices were issued.

For the petroleum and geothermal sector, 33 assessments did not result in any notices being issued.

TABLE 4. SAFETY NOTICES AND ASSESSMENTS BY SECTOR - JANUARY 2019 TO MARCH 2019

	Notices issued	Safety assessments	Notice issue rate per assessment
All mines	451	945	0.48
Coal	191	461	0.41
Large mines and quarries	131	200	0.66
Small mines and quarries	111	135	0.82
Opal mines	17	57	0.29
Petroleum / geothermal	0	33	0
Exploration	0	0	NC
Non-mine*	1	59	0.02

*Manufacturers (including Original Equipment Manufacturers), suppliers, designers, importers, licence holders and registration holders

PROACTIVE AND REACTIVE ASSESSMENTS

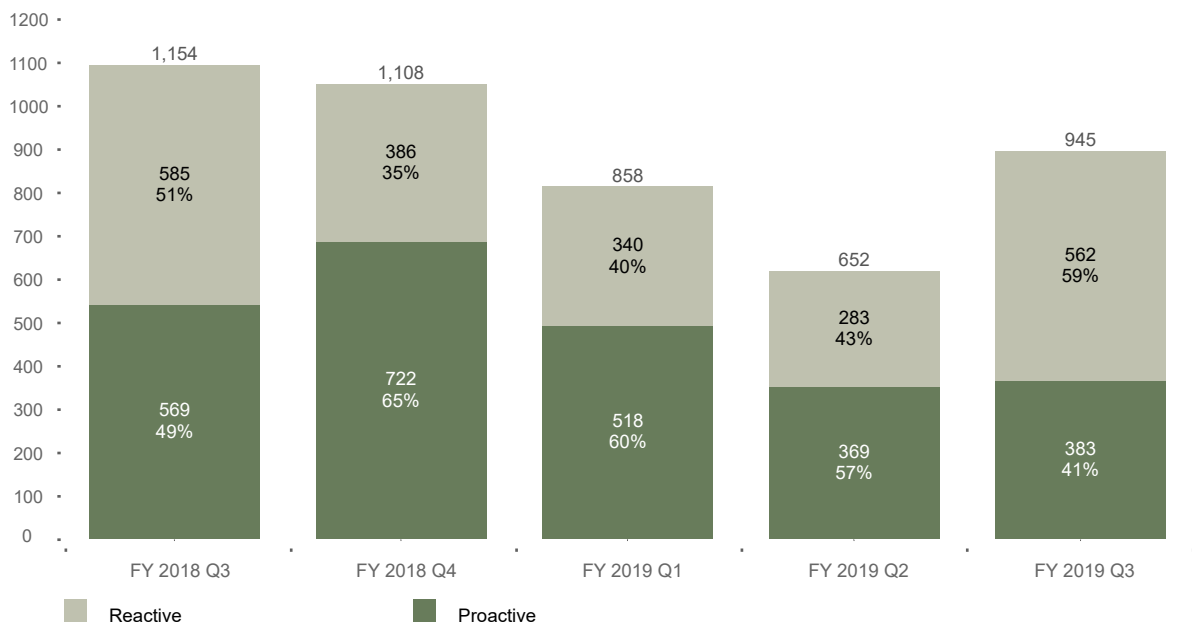
The NSW Resources Regulator’s [Incident Prevention Strategy](#) shifts the focus of its compliance activity from incident investigation (reactive) to preventing incidents through planned, risk-based interventions (proactive).

Targeted Assessment Program (TAPs) and Planned Inspections (PIs) are considered proactive in nature. Their purpose is to identify potential compliance weaknesses which could lead to an incident or injury. Both follow a pre-prepared plan focusing on principal mining hazards. TAPs focus closely on one mining hazard per assessment. PIs also focus on a specific hazard including principal control plans. Explosion suppression assessments in underground coal mines represent another proactive program of work.

The graph below shows that for each quarter, over the past five quarters, regulatory effort across all sectors focussed predominantly on proactive programs.

In the past 15 months, the NSW Resources Regulator conducted, on average, 512 proactive assessments (activities not related to incidents and complaints) each quarter. This represents approximately 54%, as an average, of all assessments. In quarter three 2018-19, 41% of all assessments were proactive in nature. The higher proportion of reactive assessments in quarter three 2018-19 (the current quarter) reflects the compliance focus during the period on targeted intervention program plans which included desktop reviews of principal hazard management program plans.

FIGURE 6. PROACTIVE AND REACTIVE SAFETY ASSESSMENTS - JANUARY 2018 TO MARCH 2019

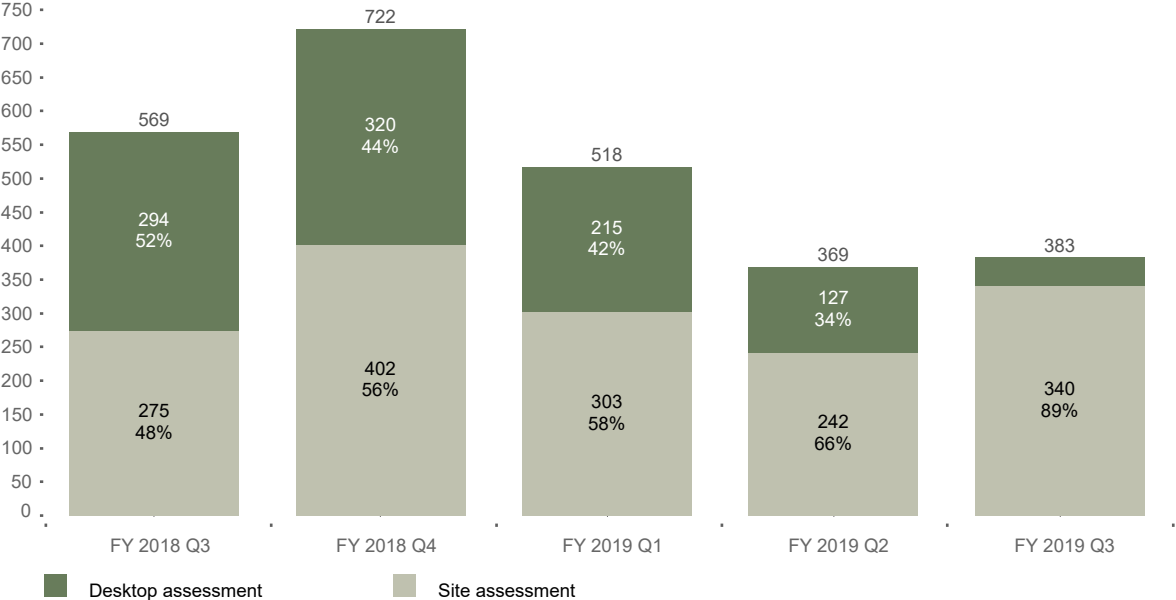


Site based (visiting mine sites) and desktop activities are both important regulatory tools. Desktop activity includes, reviews of control measures following an incident, review of standing dust committee reports, assessment of high-risk activity notifications, applications for exemptions from work health and safety laws, subsidence management plans and preparation for site work.

PROACTIVE SAFETY ASSESSMENTS

The graph below, shows the proportion of site-based and desktop activity undertaken for proactive safety assessments for each quarter since January 2018. Over the last quarter, approximately 89% of proactive safety assessments involved site inspection. In fact, for the last five quarters, 61% of proactive safety assessments, involved site-based activity.

FIGURE 7. PROACTIVE SAFETY ASSESSMENTS - JANUARY 2018 TO MARCH 2019

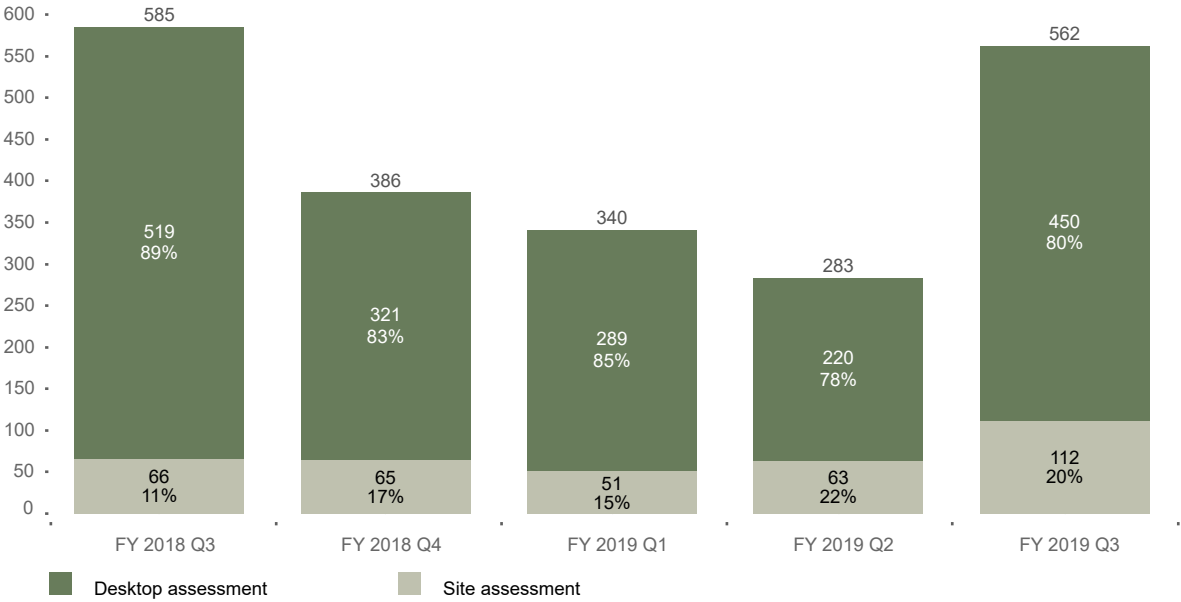


REACTIVE SAFETY ASSESSMENTS

The graph below, shows the proportion of site-based and desktop activity undertaken for reactive safety assessments for each quarter since January 2018.

Over the last five quarters, around 83% of reactive safety assessments involved desktop activity.

FIGURE 8. REACTIVE SAFETY ASSESSMENTS - JANUARY 2018 TO MARCH 2019



Safety assessments by sector

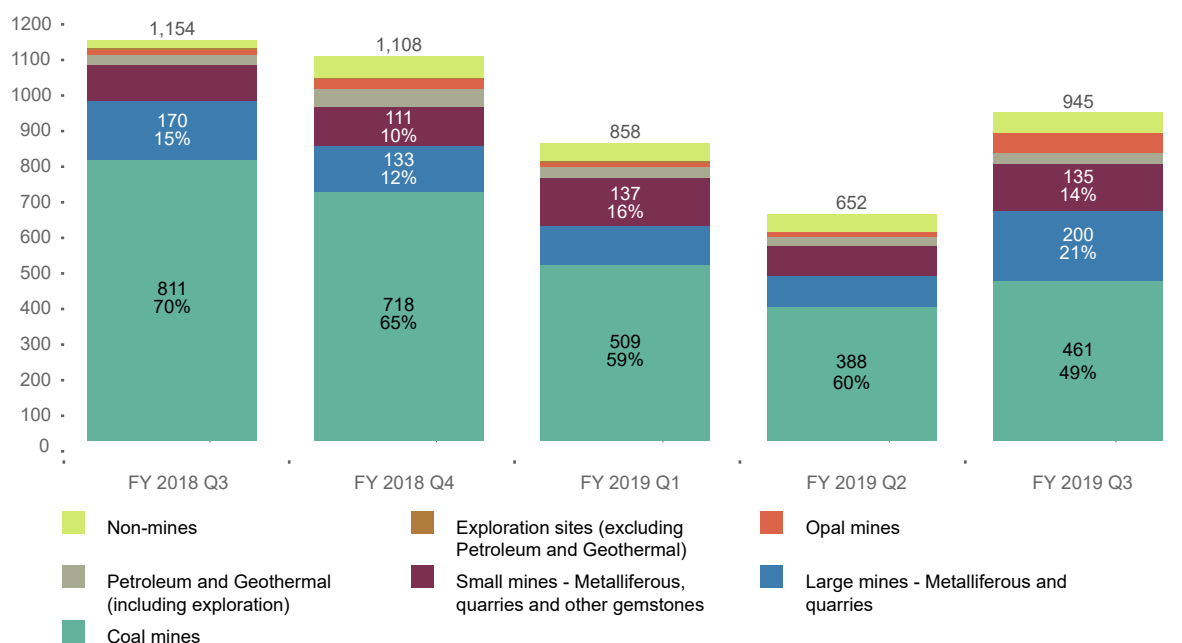
The NSW Resources Regulator undertakes regular safety assessments. The total number of these safety assessments over the past 15 months is shown below by mining sector.

The graph below shows that there were almost 45% more safety assessments carried out in this quarter as compared to the previous quarter. Both the large mine (metal and quarries) and opal mines sectors accounted for the most of this increase, which reflects the added focus in those areas.

In the previous quarter, 60% of assessments were in the coal sector. While this quarter saw a decrease as a total percentage (49%), there were more assessments carried out in the coal sector.

The graph below, shows that the coal sector continues to be a high priority for the NSW Resources Regulator safety assessment programs, accounting for 61%, over the previous five quarters. See the sector profile sections of this report for more details.

FIGURE 9. SAFETY ASSESSMENTS BY MINING SECTOR - JANUARY 2018 TO MARCH 2019



Targeted assessment program

The NSW Resources Regulator’s [targeted assessment program](#) (TAPs) establishes a risk-based and proactive approach for assessing the extent to which critical controls for managing principal mining hazards have been implemented. Each TAP is performed by a team of inspectors from various disciplines. The team works with the mining operation’s management team to ensure a thorough assessment is conducted.

In the current quarter, eight TAPs were conducted. See table below for detail.

TABLE 5. TARGETED ASSESSMENT PROGRAMS CONDUCTED - JANUARY 2019 TO MARCH 2019

Date	Hazard	Mine
10 Jan 2019	Fire or explosion	Endeavor Mine
5 to 6 Feb 2019	Airborne contaminants	Mt Thorley Warkworth Operations
5 to 6 Feb 2019	Diesel exhaust emissions	Chain Valley Colliery
12 Feb 2019	Fire or explosion	Woodlawn Mine S(C&PL) L20
12 to 13 Feb 2019	Fatigue	Narrabri Colliery
20 to 21 Feb 2019	Fire or explosion	Dendrobium Colliery
5 to 6 Mar 2019	Airborne Contaminants	Liddell Coal Operations
6 to 7 Mar 2019	Diesel exhaust emissions	Wongawilli Colliery

In quarter three 2018-19, one consolidated TAP report was published on our website:

- [Targeted Assessment Program, Fatigue management practices – NSW coal mines](#)

Spotlight on safety



NSW Resources Regulator has improved its competence certification processes and further implemented its practising certificate scheme

Certificate of competence examination process improved

The NSW Resources Regulator continues to make improvements to the examination processes for certificates of competence, as part of progressing the strategic plan of the Mining and Petroleum Competence Board.

In addition to having descriptions of the statutory functions to inform areas to be examined, competencies for each have now been identified. The competencies have a focus on non-technical skills and were developed by Chandler & Macleod in consultation with industry. The competencies will be published by the NSW Resources Regulator shortly.

The next stage of the plan is reviewing the examination processes and apply the competencies to how candidates will be questioned and assessed. This will benefit candidates and examiners in providing a transparent and accurate examination process to produce competent people to hold a certificate of competence.

Substantial uptake of the new practising certificate scheme

The NSW Resources Regulator is seeing a substantial uptake of people with certificates of competence transferring over to practising certificates.

The scheme commenced in September 2017 and as at the end of March 2019, 3,730 practising certificates have been issued. By August 2020, it is forecast that up to 6,000 individuals will hold practising certificates once the implementation period is completed.

Practising certificate holders are required to undertake learning to meet their maintenance of competence conditions. As part of this, the NSW Resources Regulator has finalised its Learning from Mining Disasters Training Package. In future, providers will be accredited to deliver the package.

The new scheme ensures the ongoing competency of individuals exercising statutory functions under the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 for individuals exercising statutory functions to be and remain competent.

See our [website](#) for more information.



Emergency planning by Heron Resources - good practice example of early and ongoing consultation with local emergency services and the NSW Resources Regulator

The NSW Resources Regulator recognises the effort and engagement by Heron Resources' Woodlawn mine as an example of good practice in emergency planning. Early and meaningful consultation by Heron has translated into positive outcomes for participant stakeholders. This is particularly notable, given the nature of the issue (emergency management), the specific challenges of the site (remoteness and limited local area response resources) and the proactive nature of the collaboration.

Heron Resources' mine is 30 minutes from Goulburn, near the small Southern Highlands village of Tarago. The mine has recently recommenced mining and processing operations 21 years since the original mine closed in 1998.

During the early phases of construction, Heron Resources actively participated in several NSW Resources Regulator engagement activities, including the Metalliferous Industry Safety and Health Engagement Forum and the Metex Emergency Response Team Working Group. Since then the mine has continued to work with the NSW Resources Regulator and has also started attending the local emergency management committee meetings in Goulburn-Mulwaree. Crucially, this has provided the mine with an opportunity to consult directly with local emergency services and the local council about the development of the mine's emergency plan and its site-based response capabilities as required under the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014.

Engagement between the mine operator and the committee has continued. This has included site inspections by committee members, including Fire and Rescue NSW.

In early 2019, Heron Resources hosted the local emergency management committee meeting where the response arrangements for the emergency services and the mine were further discussed. As the mine prepares to transition from development to production, this is an important test of the interoperability between the mine and emergency services in the event of an actual emergency. In addition to supplying their site emergency plan and risk assessments for review, Heron Resources collaborated with the committee to develop a specific mine emergency plan under the committee's Local Emergency Management Plan, known as, a Consequence Management Guide. This guide outlines specific hazard response arrangements for emergency services and is tailored to manage the local risks and context.



The NSW Resources Regulator's dedicated subsidence engineering team focuses on early detection and prevention

Over the last fifteen years there has been an increase in underground mining operations being conducted under or near critical infrastructure. At the same time, it is generally accepted that there is a very low tolerance for mining related health and safety incidents affecting the public.

Consequently, the NSW Resources Regulator has a dedicated subsidence engineering team, responsible for regulating mine subsidence related work health and safety risks. The NSW Resources Regulator's specialist team is involved at all stages of the planning approval process from the initial proposal through to any development consent. We are also involved in the development of Principal Hazard Management Plans, High Risk Activity Notifications as well as regulatory oversight when mines are operational.

The NSW Resources Regulator uses a risk-based approach to prioritise its work regulating mining related subsidence in NSW. Consequently, there is an increased focus at sites where risks are considered high. These include sites where critical infrastructure may be affected by subsidence. Of note, during this current quarter (quarter three of the 2018-19 year), highly significant infrastructure including the Sydney to Melbourne railway, Hume Highway and major national high voltage power lines have all been affected by mining operations.

As the saying goes 'being forewarned is being forearmed'. Therefore, a key focus of the team is the ongoing surveillance of subsidence risk management activities at high risk mining operations where the tolerance for incidents is low. Consistent with statutory requirements, the NSW Resources Regulator analyses subsidence data supplied by mine operators for the purposes of early detection and prevention. Often this information is collected as part of each mine's risk management plan. The recently updated NSW Resources Regulator's compliance database has also further enhanced our subsidence surveillance processes.



Sector profiles

**NSW
Resources
Regulator**

**SECTOR
REPORTING**

Coal mines

Opencut, underground and coal preparation plants

Large mines

METALLIFEROUS AND QUARRIES

Quarries that produce >900,000 tonnes pa and large opencut or underground metalliferous mines

Small mines

METALLIFEROUS, QUARRIES AND OTHER GEMSTONES

Quarries and other mine types (e.g. sand, clay, lime) that produce <900,000 tonnes pa, opencut or underground metalliferous mines and gemstone mines

Petroleum and Geothermal

Onshore petroleum and geothermal productions and exploration sites

Opal Mines

Opal mines at Lightning Ridge and White Cliffs

Exploration

Exploration sites (excluding petroleum)

Non-mine

Includes many manufacturers (including OEMs), suppliers, designers, importers, licence holders and registration holders

Coal sector

Coal sector safety profile

In the January - March 2019 quarter, there were 121 active coal mines - 75 surface and 46 underground operations. There were 88 'open' coal mines, 23 'under care and maintenance' and two 'intermittent'. The remaining eight had a status of 'planned'.

SAFETY INCIDENT NOTIFICATIONS

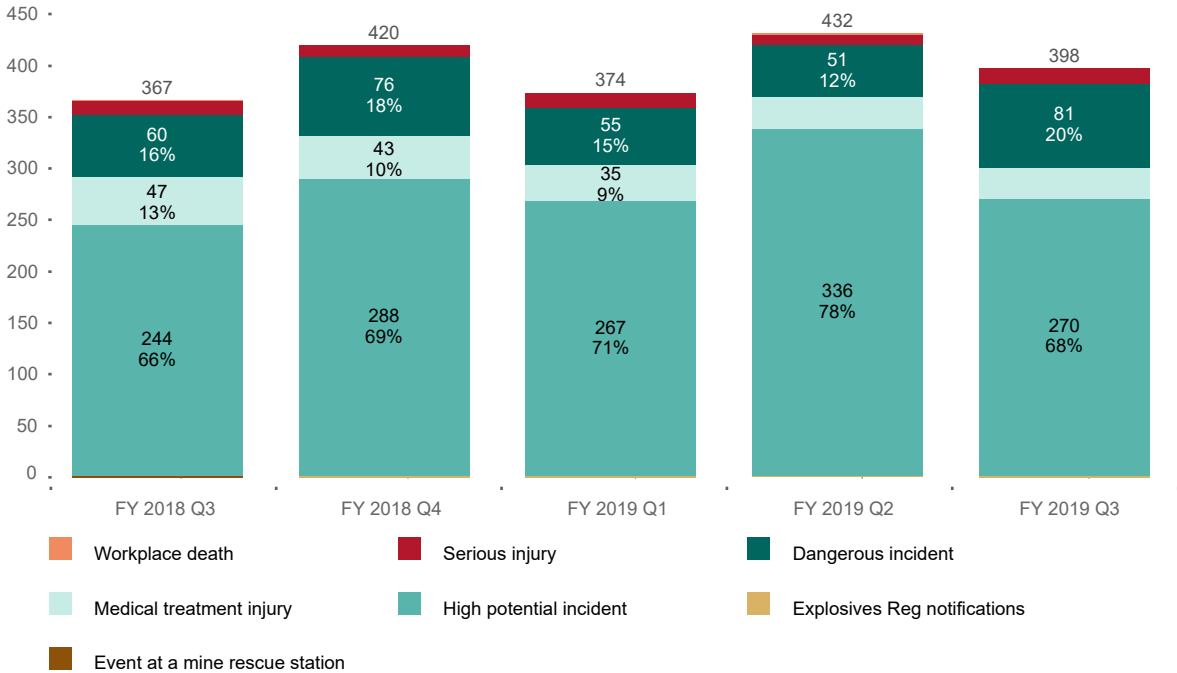
Legislation requires mine operators to notify the NSW Resources Regulator about the occurrence of certain types of safety incidents. (See Appendix 1 for legislative detail)

The graph below shows the number of notifications received over the past five quarters from the coal sector. This shows a slight overall rising trend over time.

In the current quarter (quarter three of the 2018-19 year), the NSW Resources Regulator received a total of 398 notifications from the coal sector. This represents an 8% decrease to the previous quarter with an increase of 8% when compared to the same period a year before (quarter three of the 2017-18 year).

The clear majority of notifications received in the current quarter (68%) relate to high potential incidents. A further 20% relate to dangerous incidents.

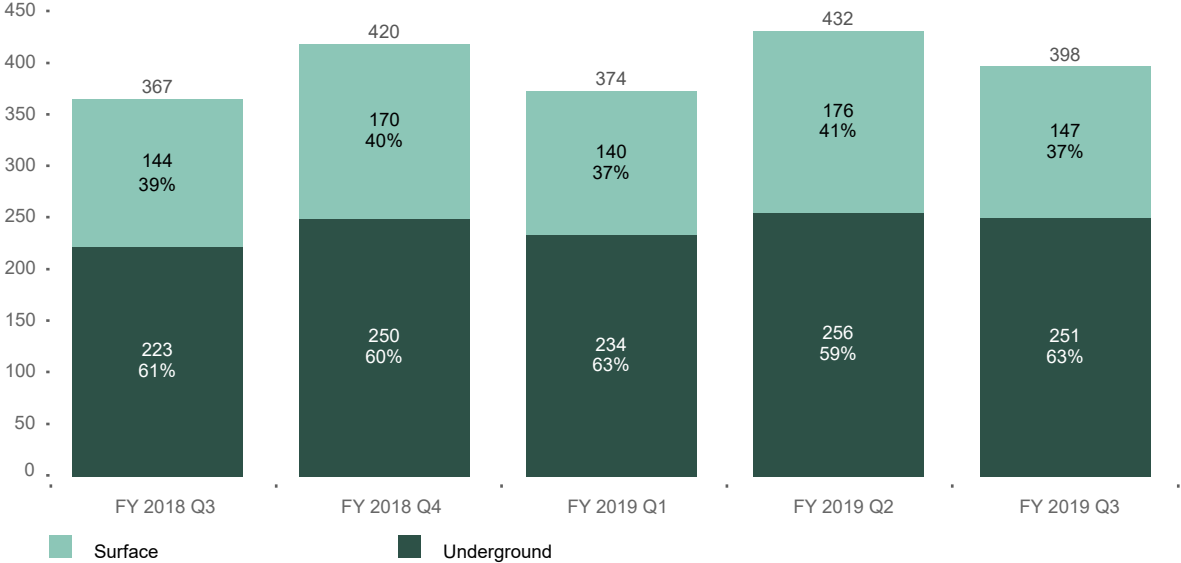
FIGURE 10. COAL SECTOR NOTIFICATIONS BY INCIDENT TYPE - JANUARY 2018 TO MARCH 2019



The graph below shows the proportion of notifications received from surface and underground coal operations.

In the current quarter nearly two-thirds of notifications received (63%) were from underground coal mines. Over the last five quarters, the proportion of notifications by underground coal mines has remained relatively consistent on average 61% of all notifications.

FIGURE 11. COAL SECTOR NOTIFICATIONS BY OPERATION TYPE - JANUARY 2018 TO MARCH 2019



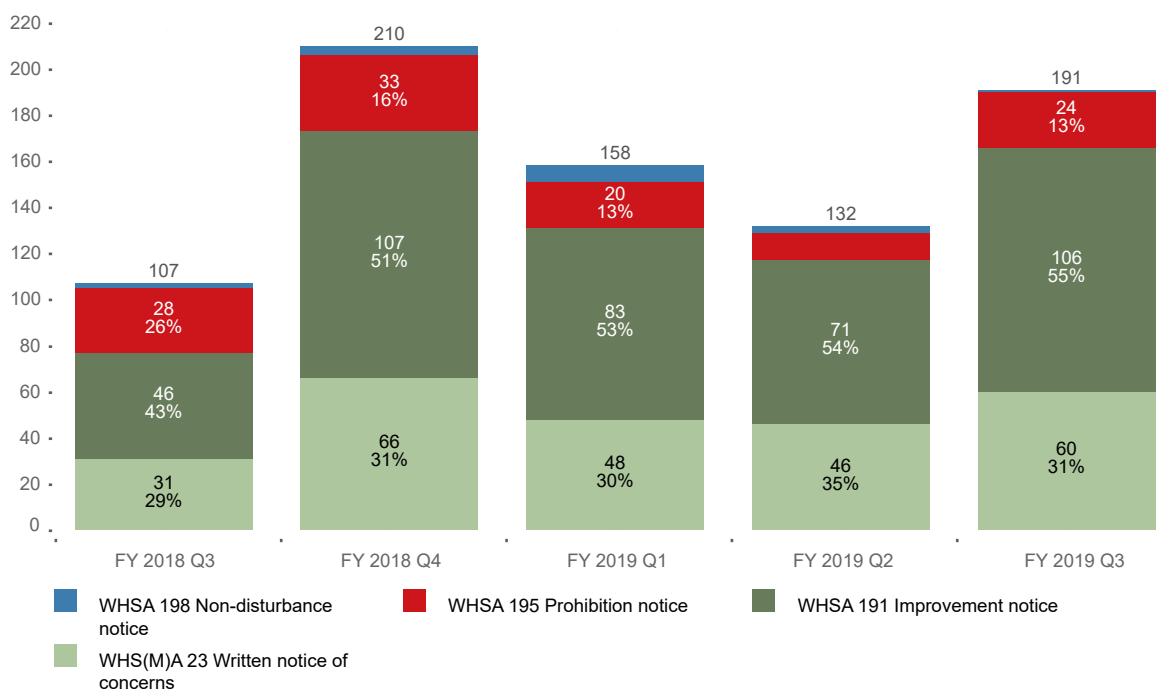
Coal sector compliance activities

SAFETY NOTICES ISSUED

The graph below, shows the number and types of safety notices issued in the coal sector in the five quarters since January 2018. No obvious trends are evident as the overall volume of safety notices varies. The variability seen is, in part, a reflection of the nature of inspection activity.

In the current quarter (quarter three 2018-19) the NSW Resources Regulator issued a total of 191 safety notices in the coal sector. More than half (55%) of those were improvement notices, 31% were notice of concerns and 13% (24 of 191) were prohibition notices. This equates to the NSW Resources Regulator issuing, on average, one prohibition notice, for approximately every four improvement notices.

FIGURE 12. COAL SECTOR SAFETY NOTICES ISSUED - JANUARY 2018 TO MARCH 2019



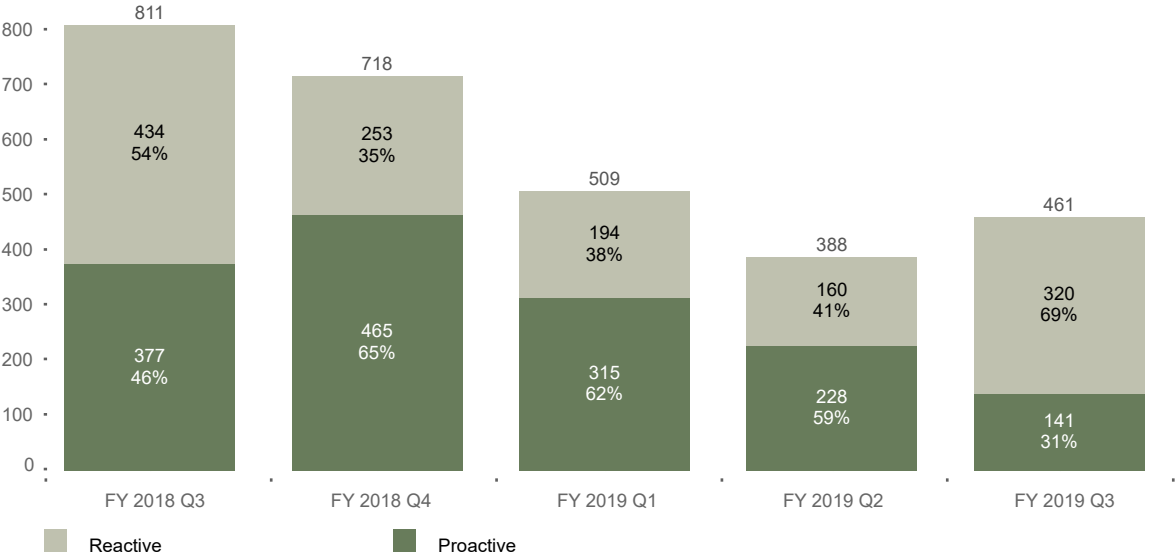
SAFETY ASSESSMENTS

PROACTIVE AND REACTIVE ASSESSMENTS

The graph below, shows that for most of the quarters since January 2018, the NSW Resources Regulator’s effort in the coal sector, was primarily focussed on proactive programs. Recent activity in other sectors has realigned the focus of these assessment efforts in the coal sector.

On average, over 305 proactive assessments were conducted each quarter, representing nearly 53% of all assessments.

FIGURE 13. COAL ASSESSMENTS BY NATURE - JANUARY 2018 TO MARCH 2019

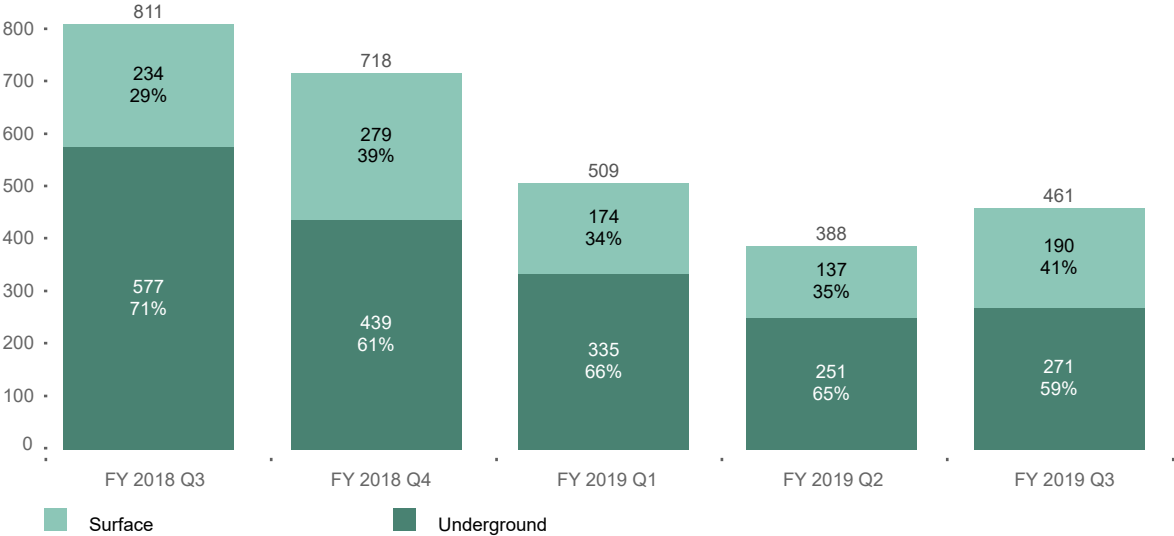


SAFETY ASSESSMENTS BY OPERATION TYPE

The graph below, shows that in the five quarters since January 2018, the clear majority of coal sector assessments conducted by the NSW Resources Regulator were in underground, compared to surface operations. Though the proportions varied over that time, between 59% and 71% of assessments were in underground coal operations.

In the current quarter (quarter three 2018-19), 59% of all coal assessments were in underground operations.

FIGURE 14. COAL SECTOR ASSESSMENTS BY OPERATION TYPE - JANUARY 2018 TO MARCH 2019



TARGETED ASSESSMENT PROGRAM

The table below, shows the TAPs conducted and notices issued over the three-month reporting period. Since January 2019, the NSW Resources Regulator conducted six TAPs in the coal sector. Two thirds of the TAPs conducted were in underground mines.

TABLE 6. TARGETED ASSESSMENT PROGRAMS CONDUCTED - JANUARY 2019 TO MARCH 2019

Date	Hazard	Mine
5 to 6 Feb 2019	Airborne contaminants	Mt Thorley Warkworth Operations (OC)
5 to 6 Feb 2019	Diesel exhaust emissions	Chain Valley Colliery (UG)
12 to 13 Feb 2019	Fatigue	Narrabri Colliery (UG)
20 to 21 Feb 2019	Fire or explosion	Dendrobium Colliery (UG)
5 to 6 Mar 2019	Airborne Contaminants	Liddell Coal Operations (OC)
6 to 7 Mar 2019	Diesel exhaust emissions	Wongawilli Colliery (UG)



Spotlight on coal sector



Targeted intervention and enforcement at an underground coal mine

A Targeted Intervention (TIP) was undertaken at Wongawilli Colliery on 13 March 2019. In the months leading up to the TIP, the mine had reported several roof falls. The NSW Resources Regulator's inspectors had also raised concerns during planned inspection activities regarding conveyor belt standards, emergency response equipment and travel road conditions. A team of eight inspectors participated in the TIP with a specific focus on strata management, conveyor belt standards, emergency response equipment and conditions around the working faces.

The main findings of the TIP were:

- The outbye belt system was found in poor condition with respect to accumulations of fine coal, build up of belt fibres on the conveyor rollers and structure, numerous tracking issues and guarding problems.
- The outbye belt system also suffered from restricted access for persons inspecting and maintaining the system. Poor strata conditions were also observed in places along these belt roads.
- Inspection of fire depots on four inbye conveyor belts found that fire hoses had not been maintained to the mine's annual pressure testing standard. In some cases, the only evidence of pressure testing found was from some 18 years previous.
- Strata conditions in an inbye area with older standing and bolted supports were observed to be in extremely poor state. Strata monitoring devices were observed to be unserviceable and could not be used for strata management purposes. There had been several recent roof falls in the area, raising serious concern as to the stability of the roadways and health of the support system in the area.
- In a pillar panel, evidence was found of a lift being enlarged by robbing the adjacent lift.

Three prohibition notices were served on the day, effectively shutting down the conveyor belt system and restricting access to an area of the mine with strata concerns.

On 14 March 2019 the mine reported a further roof fall in a unused belt road which progressed through to the travel road.

On 15 March 2019, with consideration of all matters identified by inspectors, the circumstances of ongoing roof falls, and the repeated failure of the mine operator to adequately address safety concerns relating to the mine conveyor system, the Chief Inspector of Mines issued a stop work order to the mine operator in accordance with section 51 of the *Work Health and Safety (Mines and Petroleum sites) Act 2013*.

Large mines and quarries

Large mines and quarries safety profile

In the current quarter, there were 36 active large mines and quarries; 18 surface operations and 18 underground mines. There were 33 'open' underground large mines and quarries and three 'under care and maintenance'.

SAFETY INCIDENT NOTIFICATIONS

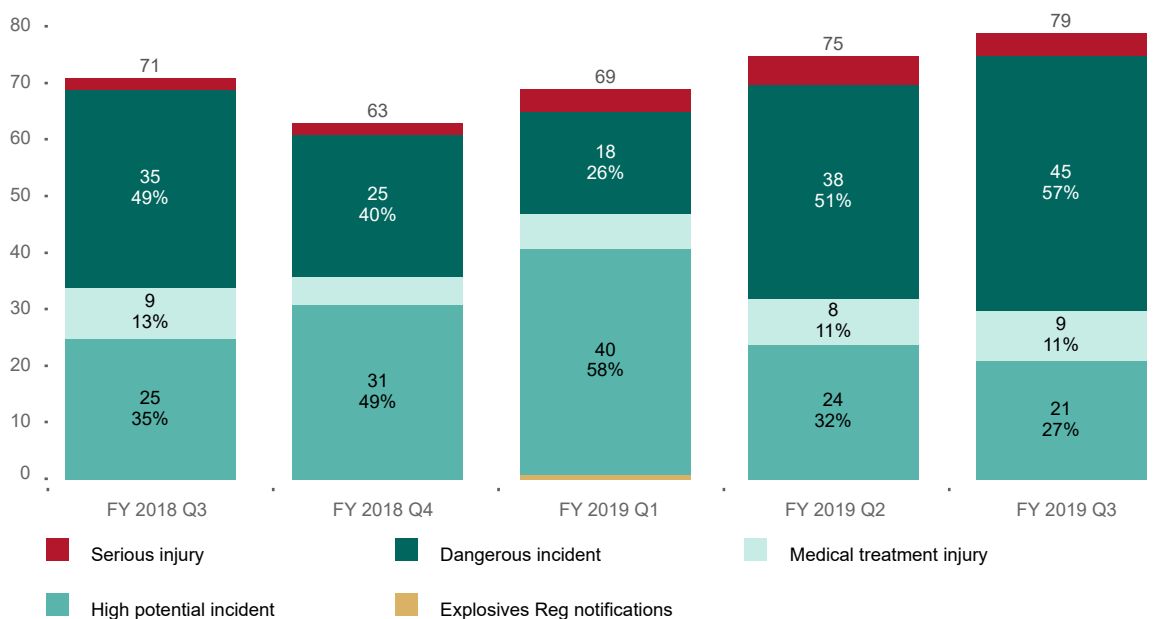
Legislation requires mine operators to notify the NSW Resources Regulator about the occurrence of certain types of safety incidents. (See Appendix 1 for legislative detail)

The graph below shows the number of notifications received over the past five quarters from large mines and quarries. This shows an overall rising trend over time.

In the current quarter (quarter three of the 2018-19 year), the NSW Resources Regulator received a total of 79 notifications from the large mines and quarries sector. This represents approximately an increase of 11% when compared to the same period a year before (quarter three of the 2017-18 year).

Most notifications received in the current quarter (57%) relate to dangerous incidents. A further 27% relate to high potential incidents. The trending increase is reflected in the increased number of reactive safety assessments in this sector, over this current quarter.

FIGURE 15. LARGE MINES AND QUARRIES NOTIFICATIONS BY INCIDENT TYPE - JANUARY 2018 TO MARCH 2019

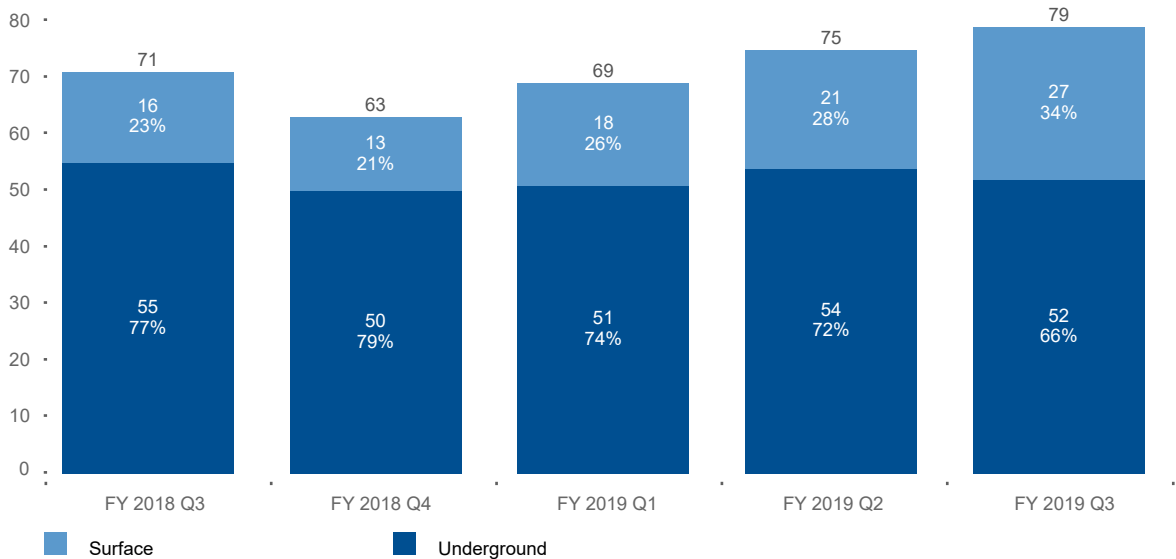


The graph below, shows incidents notified to the NSW Resources Regulator by operation type for large mines and quarries for the last five quarters. The number of incidents reported by either underground or surface operations (dredging, open cut mining and processing) is showing a continued upward trend.

Over time, most of the incidents notified were by underground operations (varying between 66% to 79% of incidents).

In the current quarter, 66% of notifications from the large mines and quarries sector were received from underground operations.

FIGURE 16. LARGE MINES AND QUARRIES NOTIFICATIONS BY OPERATION - JANUARY 2018 TO MARCH 2019



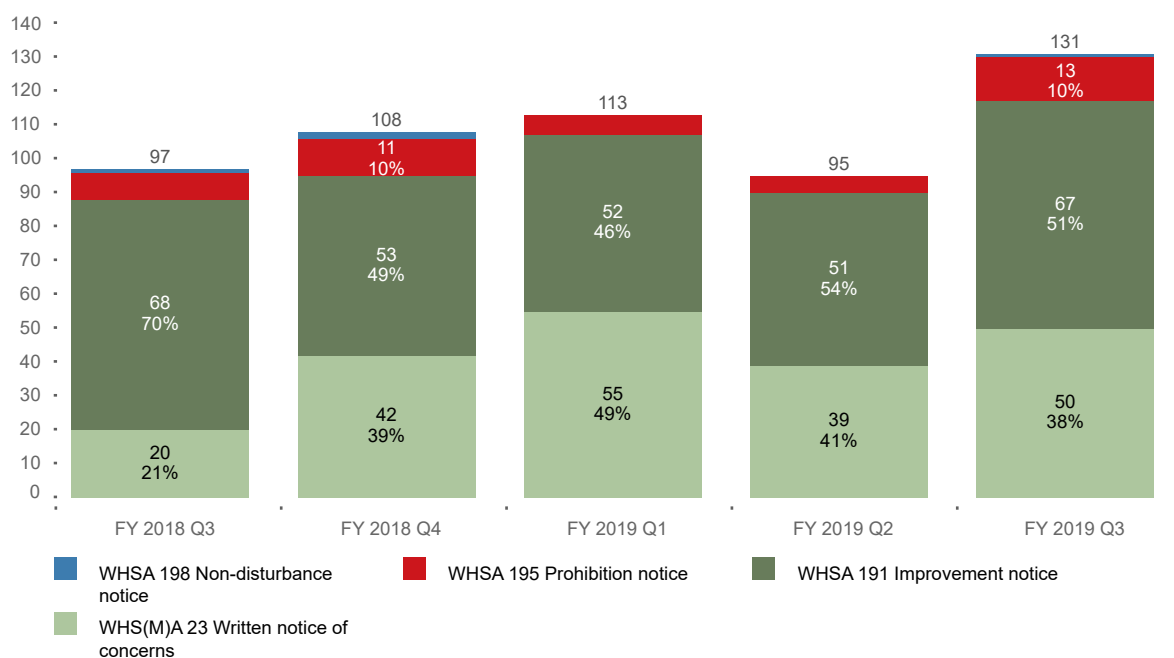
Large mines and quarries compliance activities

SAFETY NOTICES ISSUED

The graph below, shows the number and types of safety notices issued in the large mines and quarries sector in the five quarters since January 2018. This sector has seen a continued upward trend in enforcement actions by the NSW Resources Regulator over the last five quarters.

In the current quarter (quarter three 2018-19) the NSW Resources Regulator issued a total of 131 safety notices in the large mines and quarries sector. Just over half (51%) of those were improvement notices, 38% were notices of concern and 10% (13 of 131) prohibition notices. This equates to the NSW Resources Regulator still only issuing on average one prohibition notice for every five improvement notices.

FIGURE 17. LARGE MINES AND QUARRIES SAFETY NOTICES ISSUED - JANUARY 2018 TO MARCH 2019



SAFETY ASSESSMENTS

PROACTIVE AND REACTIVE ASSESSMENTS

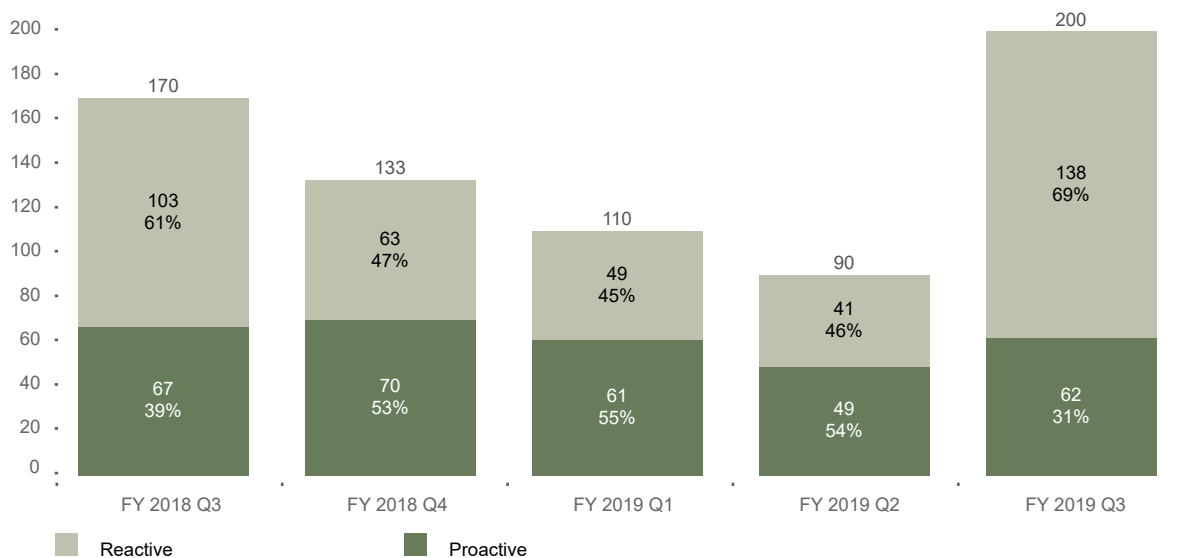
The graph below, shows that for each of the quarters since January 2018, the NSW Resources Regulator's effort was focussed on proactive programs rather than reactive ones.

On average, approximately 62 proactive assessments (activities not related to incidents and complaints) in this sector were conducted each quarter, representing 44% of all assessments.

In the current quarter, 31% of assessments were proactive in nature. This is in part, due to the number of notifications and results of assessments in the last three months.

The higher proportion of reactive assessments in quarter three 2018-19 (the current quarter) reflects the compliance focus during the period on targeted intervention program plans which included desktop reviews of principal hazard management program plans.

FIGURE 18. LARGE MINES AND QUARRIES ASSESSMENTS BY NATURE - JANUARY 2018 TO MARCH 2019

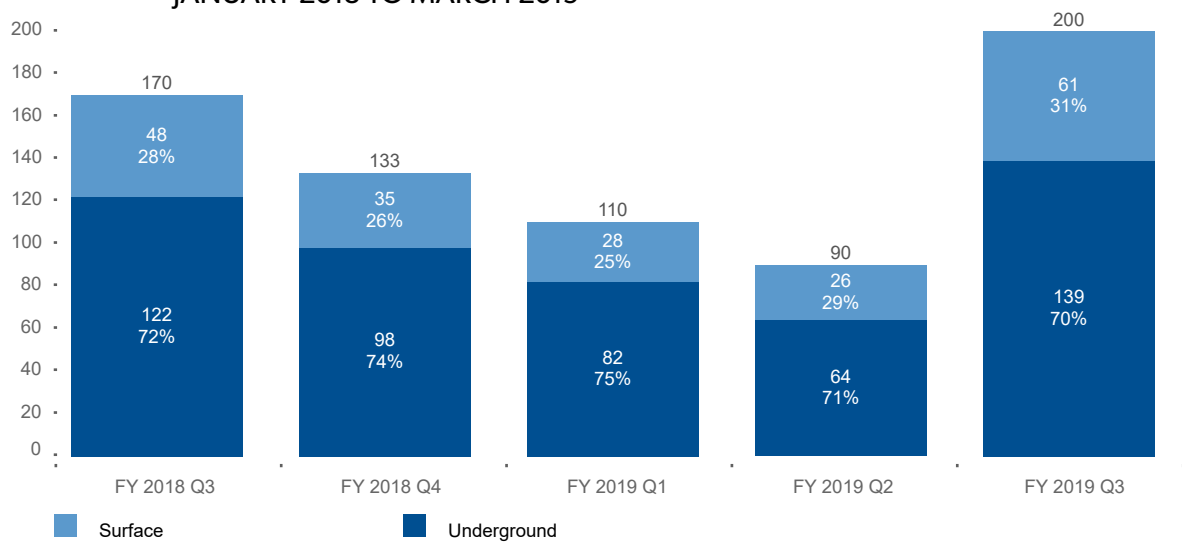


SAFETY ASSESSMENTS BY OPERATION TYPE

The graph below shows the number of safety assessments conducted in underground and surface operations in the large mines sector in the past five quarters since January 2018. This shows that there were over twice as many underground operations compared to surface operations assessments conducted in the sector.

In the current quarter (quarter three 2018-19), 70% of all large mines and quarries assessments were in underground operations.

FIGURE 19. LARGE MINES AND QUARRIES SAFETY ASSESSMENTS BY OPERATION - JANUARY 2018 TO MARCH 2019



The table below, shows the TAPs conducted and notices issued over the three-month reporting period. Since January 2019, the NSW Resources Regulator conducted two TAPs in the large mines and quarries sector.

TABLE 7. TARGETED ASSESSMENT PROGRAM CONDUCTED - JANUARY 2019 TO MARCH 2019

Date	Hazard	Mine
10 Jan 2019	Fire or explosion	Endeavor Mine (UG)
12 Feb 2019	Fire or explosion	Woodlawn Mine S(C&PL) L20 (UG)

Spotlight on large mines and quarries sector



Fire or explosion hazard management – targeted assessment findings

The NSW Resources Regulator's targeted assessment program on the management of fire or explosion risks at underground metalliferous mines was recently completed. Common findings and recommendations arising from the assessments will soon be published on our website in a consolidated report for industry.

General findings included fire or explosion principal hazard management plans not underpinned by a risk assessment, failure to consider all legislated requirements and poor integration of safety management system documentation from risk assessment through to principal hazard management plan, principal control plans and other subordinate documents.

Specific findings included mines failing to identify all reasonably foreseeable hazards and risk controls for fixed plant and mobile equipment introduced to site. In some cases, mine operators have not considered all potential ignition sources, types and location of systems for the early detection and suppression of fires, and the types and location of equipment for fighting a fire at the mine.

Also, of note is the use air compressors underground to supply refuge chambers. Only one mine identified the hazard associated with compressor failure during an underground fire event and the risk of reticulating contaminated air into refuge chambers. The mines were unable to demonstrate consideration of the hierarchy of controls to eliminate this hazard by locating air compressors on the surface.

There were various non-compliances with the Australian Standard relating to the design, construction and management of underground explosives magazines. Mine operators had not audited their underground explosives magazines to check compliance against the requirements of the Australian Standard. Mine operators had not ensured that underground explosives magazines were compliant with Australian Standard AS 2187 Explosives – Storage, transport and use as is required by clause 31(2) of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014.



Small mines and quarries

Small mines and quarries safety profile

In the current quarter there were 2,653 active small mines and quarries in NSW. Most of these small mines are surface operations (2,616 from 2,653, or approximately 99%).

Of the surface operations, 1,770 are classed as 'intermittent'; 717 are classed as 'open'; 95 are classed as 'under care and maintenance', two are classed as open tourist mines and 32 are planned.

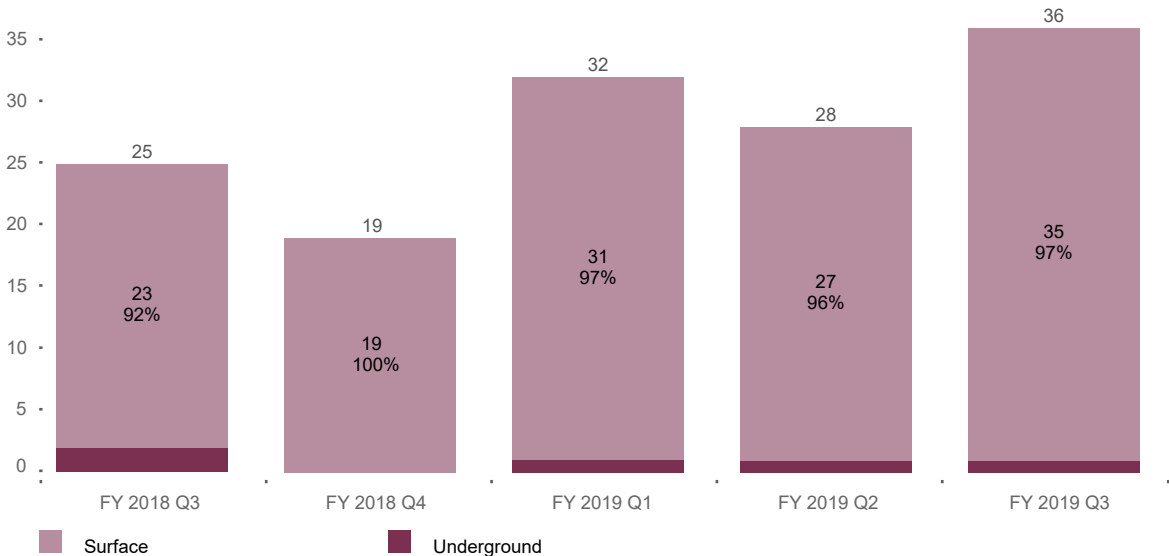
SAFETY INCIDENT NOTIFICATIONS

Legislation requires mine operators to notify the NSW Resources Regulator about the occurrence of certain types of safety incidents. (See Appendix 1 for legislative detail.)

The graph below shows the number of notifications received over the past five quarters from small mines and quarries. This appears to show an overall rising trend over time but note that these are small numbers of notifications so it is difficult to perform a trend analysis.

In the current quarter (quarter three of the 2018-19 year), the NSW Resources Regulator received a total of 36 notifications from the small mines and quarries sector. This represents an increase of 44% when compared to the same period a year before (quarter three of the 2017-18 year). This may be, in part, due to better understanding (and compliance to) of their obligations to report incidents.

FIGURE 20. SMALL MINES SAFETY NOTIFICATIONS BY OPERATION - JANUARY 2018 TO MARCH 2019

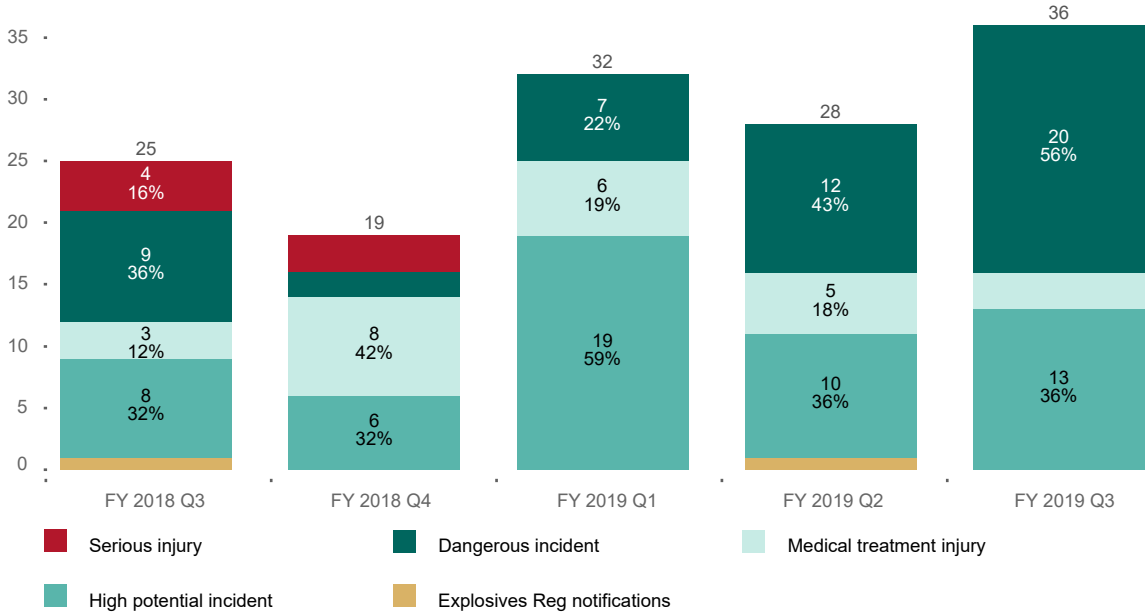


The graph below, shows incidents notified to the NSW Resources Regulator by operation type for small mines and quarries for the last five quarters.

There are mixed results for the sector. Majority of the notifications received in the current quarter (56%) relate to dangerous incidents. A further 36% relate to high potential incidents. However, both serious injury incidents and medical treatments incidents, are down.

These proportions fluctuate over time and may likely be a result of the smaller numbers overall.

FIGURE 21. SMALL MINES NOTIFICATIONS BY INCIDENT TYPE - JANUARY 2018 TO MARCH 2019



Small mines and quarries compliance activities

SAFETY NOTICES ISSUED

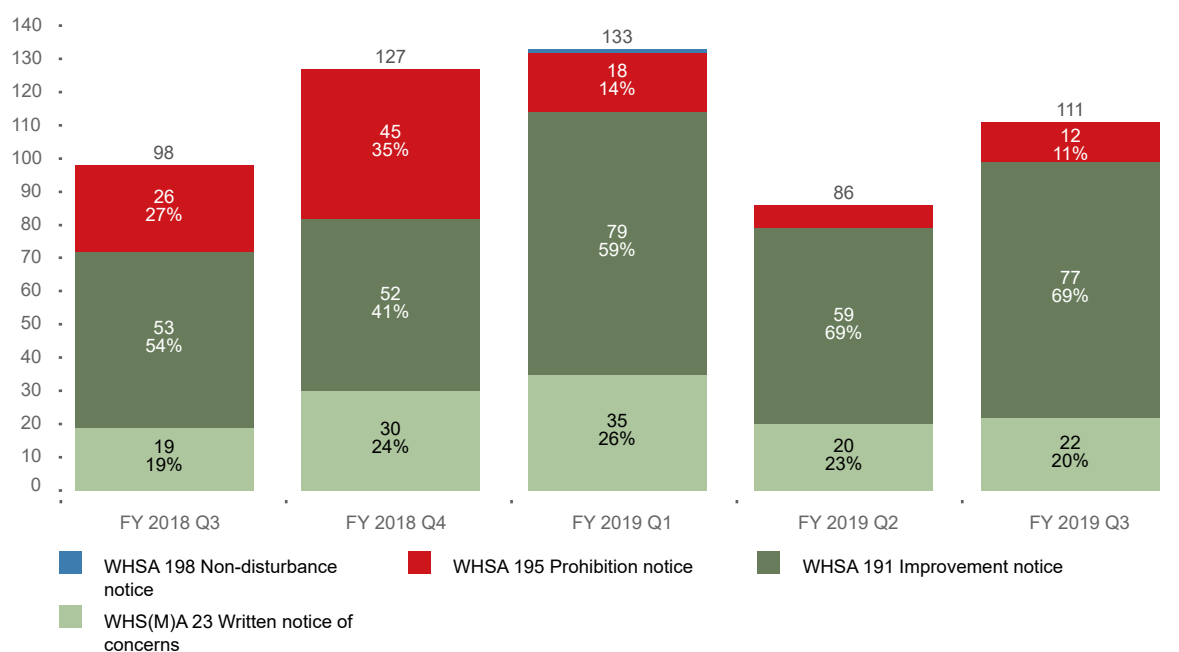
The graph below, shows the number and types of notices by the NSW Resources Regulator in the five quarters since January 2018 in the small mines and quarries sector.

In the current quarter (quarter three 2018-19), the NSW Resources Regulator issued 111 safety notices, a 13% increase, when compared to the same quarter last year

Over the previous six months, prohibition notices issued to the sector have declined proportionally.

In the current quarter, of the 111 notices issued, 77 (69%) were improvement notices, 20% (22 of 111) were matters of concern and 11% (12 of 111) were prohibition notices. This equates to the NSW Resources Regulator issuing, on average, one prohibition notice for approximately every six improvement notices.

FIGURE 22. SMALL MINES SAFETY NOTICES ISSUED - JANUARY 2018 TO MARCH 2019



SAFETY ASSESSMENTS

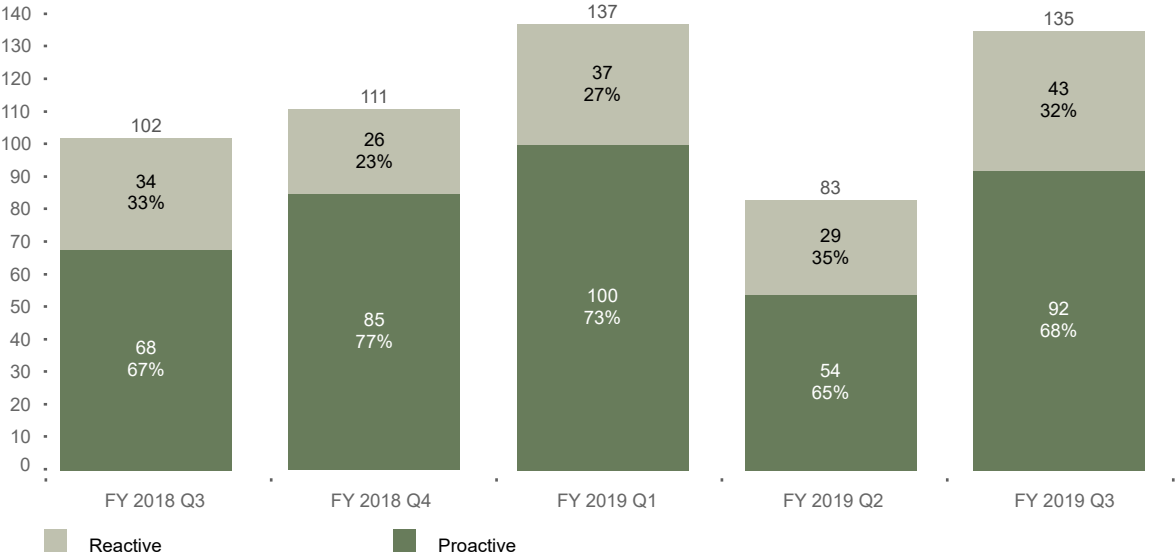
PROACTIVE AND REACTIVE ASSESSMENTS

The graph below shows that for each of the quarters since January 2018, the NSW Resources Regulator’s effort was focussed on proactive programs (activities not related to incidents and complaints) in the small mines and quarries sector, rather than reactive ones.

In this quarter, 68% of assessments were proactive in nature.

On average, 80 proactive assessments in this sector were conducted each quarter, representing 70% of all assessments.

FIGURE 23. SMALL MINES ASSESSMENTS BY NATURE - JANUARY 2018 TO MARCH 2019

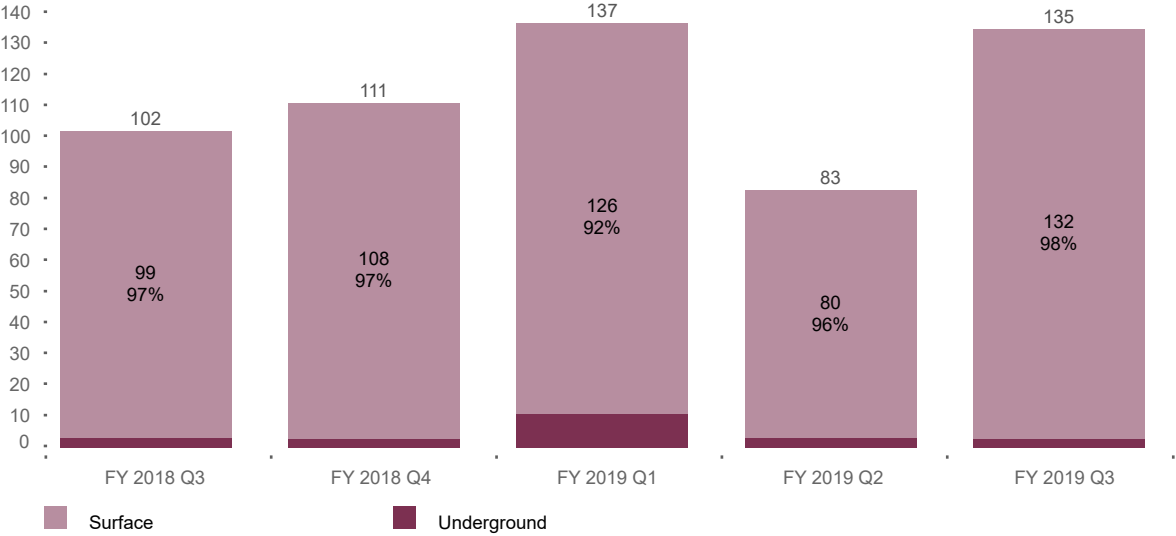


SAFETY ASSESSMENTS BY OPERATION TYPE

The graph below, shows the number of safety assessments conducted by the NSW Resources Regulator in underground and surface operations in the small mines and quarries sector in the past five quarters since January 2018. This shows that most small metal mines and quarries assessments, were in surface operations, compared to underground. This is not unexpected given that almost all small mines and quarries are surface operations.

In the current quarter (quarter three 2018-19), 98% of all small metal mines and quarries assessments, were in surface operations.

FIGURE 24. SMALL MINES SAFETY ASSESSMENTS BY OPERATION - JANUARY 2018 TO MARCH 2019



Spotlight on small mines and quarries sector



Enforcement and compliance action taken at an open cut magnesium mine

On 31 January, the NSW Resources Regulator took significant enforcement action, in the form of a stop work order, against Young Mining Company Pty Ltd, Thuddungra. This action was taken pursuant to section 51 of the Work Health and Safety (Mines and Petroleum sites) Act 2013.

The area in which the mine operates, has been previously mapped, as an area containing naturally occurring asbestos. During inspections, it was noted that the site asbestos management plan did not address the risks posed by the naturally occurring asbestos of the area. Compounding concerns regarding this hazard, were the number of vehicles operating with windows open (because of non-functioning air-conditioning) and workers not being provided with, or not wearing, personal protective equipment.

To prevent the serious risk to health and safety of any person potentially exposed to naturally occurring asbestos, the Chief Inspector of Mines issued a stop work order until the mine had developed and implemented an asbestos management plan and rectified issues identified with several of the site vehicles.

In addition, since March 2019, three prohibition notices and one improvement notice have been issued to the mine. In summary, the mine was:

- required to conduct extensive reviews of its maintenance management systems and to undertake risk assessments of key systems and operations
- prohibited from operating four plant because continued use of the equipment will involve a serious risk to the health and safety of persons emanating exposure to a hazard.
- prohibited from using the workshop forklift as an elevated work platform and
- prohibited from filling and accessing under plus 65 bins at the screening plant because key structural support columns show signs of impact damage.

The NSW Resources Regulator will continue to take escalated enforcement action of this magnitude, when health and safety issues of this nature are observed in order to keep workers and others, safe.



Opal mines

Opal mines safety profile

In the current quarter, there were 3,522 active opal mines in NSW. Almost all the opal mine sector is composed of underground, small-scale titles. The remote location and nature of the sector makes health and safety regulation challenging.

The NSW Resources Regulator's small mine team continues to engage with operators and the Lightning Ridge miner's association to improve safety performance and reporting in opal mines. The current tranche of compliance priorities includes a novel scheme (for mining), that aims to reduce the number of fatalities from falls from height in the sector.

SAFETY INCIDENT NOTIFICATIONS

In the current quarter, there were no notified to the NSW Resources Regulator in the opal mine sector.

The NSW Resources Regulator is currently examining potential incident under-reporting especially in the opal sector as a priority compliance project. This report establishes reporting benchmarks against which to measure future impacts of the project.

TABLE 8. NOTIFIED SAFETY INCIDENTS - JANUARY 2018 TO MARCH 2019

	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Total
Opal sector – notified incidents	1	2	2	2	0	7
All sectors – total notified incidents	466	506	480	539	514	2,505

Opal mines compliance activities

SAFETY ASSESSMENTS AND NOTICES ISSUED

The table below shows the number of notices issued and assessments conducted by the NSW Resources Regulator over the last five quarters. In quarter three 2018-19, the NSW Resources Regulator issued 17 notices (representing approximately 4% of all industry notices issued) and conducted 57 assessments (representing approximately 6% all industry assessments).

This table, in part, represents an added focus of the recent compliance work in the sector as safety assessments for the quarter showed a large increase.

TABLE 9. OPAL SAFETY NOTICES ISSUED AND ASSESSMENTS - JANUARY 2018 TO MARCH 2019

	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Total
Safety notices issued	12	4	2	7	17	42
Safety assessments conducted	15	31	14	13	57	130

Petroleum and geothermal

Petroleum and geothermal safety profile

As at the end of March (quarter three 2018-19), there were 260 active (open or intermittent) and six planned, petroleum and geothermal sites in NSW. All were surface operations.

SAFETY INCIDENT NOTIFICATIONS

Legislation requires mine operators to notify the NSW Resources Regulator about the occurrence of certain types of safety incidents. (See Appendix 1 for legislative detail.)

The table below shows the lack of notifications received over the past five quarters from the petroleum and geothermal sector.

The NSW Resources Regulator is currently examining incident under-reporting. This report establishes benchmarks against which to measure future impacts of the project.

TABLE 10. PETROLEUM AND GEOTHERMAL NOTIFIED INCIDENTS - JANUARY 2018 TO MARCH 2019

	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Total
Number of incidents notified	0	0	0	0	0	0
All sectors – total notified incidents	466	506	480	539	514	2,505



Petroleum and geothermal compliance activities

The table below, shows the safety assessments conducted and number of notices issued by the regulator over the 15-month reporting period for the petroleum and geothermal sector. In quarter three 2018-19, the NSW Resources Regulator conducted 33 safety assessments but issued no notices.

TABLE 11. PETROLEUM AND GEOTHERMAL ASSESSMENTS AND NOTICES - JANUARY 2018 TO MARCH 2019

	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Total
Safety notices issued	0	9	0	0	0	9
Safety assessments conducted	29	50	32	28	33	172



Exploration

As at the end of March (quarter three 2018-19), there were 719 active (which includes open/intermittent/under care and maintenance) and 25 planned exploration sites excluding petroleum and geothermal in NSW. All sites in this sector are surface exploration sites.

SAFETY INCIDENT NOTIFICATIONS

In quarter three 2018-19, the NSW Resources Regulator was notified of one safety incident in the exploration sector, representing 0.19% of the total number of incidents across all sectors.

TABLE 12. EXPLORATION - NUMBER OF NOTIFIED INCIDENTS - JANUARY 2018 TO MARCH 2019

	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Total
Number of notified incidents	2	2	3	2	1	10
All sector – total notified incidents	466	506	480	539	514	2,505

EXPLORATION SAFETY ASSESSMENTS AND NOTICES

In quarter three 2018-19, there were no assessments conducted or notices issued in the exploration sector.

TABLE 13. EXPLORATION SAFETY NOTICES ISSUED - JANUARY 2018 TO MARCH 2019

	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Total
Safety notices issued	0	2	3	2	0	7
All sector – total notified incidents	5	2	5	1	0	13

Appendices

Appendix 1. NSW Safety incident notification legislation

Incident notification	Legislation
Workplace Death	<i>s.14(a) Work Health and Safety (Mines and Petroleum sites) Act 2013</i>
Serious Injury or Illness	<i>s.14(b) Work Health and Safety (Mines and Petroleum sites) Act 2013</i>
Dangerous incident	<i>s.14(c) Work Health and Safety (Mines and Petroleum sites) Act 2013</i>
Medical Treatment Injury	cl.128(1)(a) Work Health and Safety (Mines and Petroleum sites) Regulation 2014
High Potential Incident	cl.128(1)(b) Work Health and Safety (Mines and Petroleum sites) Regulation 2014
Explosives Reg Notifications	cl.102 Explosives Regulation 2013 cl.103 Explosives Regulation 2013
Coal Industry Act Reportable Events	<i>s.45 Coal Industry Act 2001</i> A reportable event at a mine rescue station.



