



**NSW  
Resources  
Regulator**

# Quarterly safety report

APRIL TO JUNE 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.

## DOCUMENT CONTROL

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (July 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, Industry and Environment or the user's independent advisor.



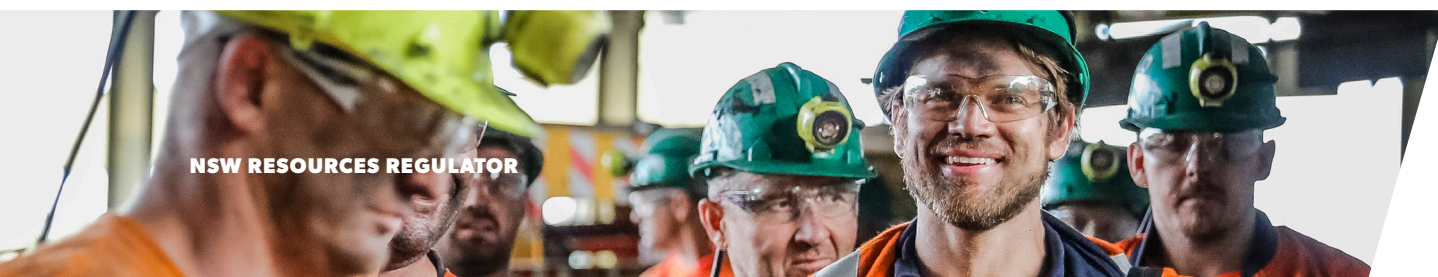
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# Executive summary

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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 four in the financial year 2018-19. This report covers a 15-month period from April 2018 to June 2019 for selected measures.

In summary:

- There were no mining related fatal injuries in NSW between April and June 2019.
- The NSW Resources Regulator ran a state-wide, high-visibility compliance operation during the week of 17 June 2019. During the operation, 85 inspectors were deployed to coal, metalliferous and quarrying operations across the state, visiting a total of 112 mine sites, petroleum sites and exploration programs. High levels of compliance were observed. On balance, the majority of compliance issues identified were considered minor. During the week, a total of 97 safety notices were issued under the *Work Health and Safety (Mines and Petroleum Sites) Act 2013*. These consisted of 36 section 23 notices of concern, 54 section 191 improvement notices, and a total of seven section 195 prohibition notices.
- In the current quarter, the NSW Resources Regulator received a total of 495 safety incident notifications. This represents a slight decrease of 2% compared to the same period a year before. Most safety incident notifications received in the current quarter (64%) relate to high potential incidents. A further 22% relate to dangerous incidents. A clear majority of safety incident notifications received in the quarter (79%) were from coal mines.
- From April 2019 through June 2019, the NSW Resources Regulator commenced three safety related prosecutions. One safety prosecution was finalised in this quarter. Currently the NSW Resources Regulator has six safety prosecution matters before the courts.



- The NSW Resources Regulator issued a total of 589 safety notices between April 2019 and June 2019. More than half (60%) of safety notices were section 191 improvement notices, 26% were section 23 notices of concern and 13% (78 of 589) were section 195 prohibition notices. This equates to an average of one prohibition notice issued for approximately every five improvement notices.
- The number of safety notices issued over the five quarters does vary but there appears to be an upward trend in the last two quarters. The variability seen is, in part, a reflection of the nature of inspection activity. In addition, the NSW Resources Regulator is also currently undertaking proactive compliance programs focused on priority areas which would account for the recent increase. The recent high visibility operation is just one example of this.
- For the first time in the past 15 months, the percentage of safety notices issued to coal mines, (29%) was less than the safety notices issued to either large mines (30%) or small mines (32%). Collectively, these three sectors accounted for 92% of all safety notices issued this quarter.
- For each quarter, over the past five quarters, regulatory effort across all sectors was split between proactive and reactive programs. The NSW Resources Regulator conducted, on average, 374 proactive assessments (activities not related to incidents and complaints) each quarter which represents approximately 49%, on average, of all assessments. In quarter four 2018-19, 50% of assessments were proactive in nature.
- This current quarter, the NSW Resources Regulator conducted five targeted assessments under its proactive assessment program (a risk-based approach for assessing principal mining hazard management practices and procedures in NSW mining operations).



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# National and international significant events

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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 April to June 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 April and June 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 26 June 2019.

A coal mine worker was fatally injured at an open cut coal mine while he was operating an excavator when an adjacent pit wall suddenly failed. This resulted in fallen material engulfing the excavator and partially crushing the excavator's cabin.

Further details are available in [Mine safety alert no. 364](#)

##### Western Australia

There was one fatal injury reported in this quarter, regarding an incident that occurred on 20 June 2019. A truck driver was fatally injured at a quarry when the truck he was operating fell approximately 15m to a bench below after crossing directly through a safety windrow. An investigation into the incident has commenced.

Further information available via [WA's Department of Mines, Industry Regulation and Safety SRS database](#)



## DANGEROUS INCIDENTS

**TABLE 1.** NSW RESOURCES REGULATOR SAFETY ALERTS AND BULLETINS

Date published	Reference	Title
26 April 2019	SA19-02	<a href="#">Truck catches fire underground</a>

### OTHER STATES

#### Queensland

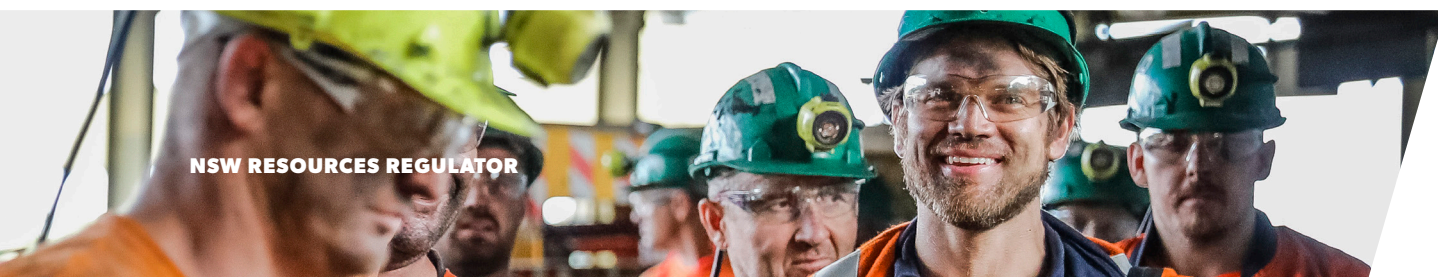
In this quarter, one dangerous incident of note was published in Queensland:

- On 28 May 2019, an inspection at a drill rig operating plant identified electrical motors installed within a hazardous zone that were not ANZEx or IECEx (International Conformity Assessment Scheme) certified. See [Petroleum and gas safety alert no. 89](#)

#### Western Australia

In this quarter in Western Australia, two dangerous incidents of note were published:

- In March 2019, and reported on 17 May 2019, an electrician was fault-finding on his own in a vent fan control panel during night shift. He was wearing 1000V Class 0 rubber gloves and attempted to remove a plastic cover to access control relays. The cover fell to the floor of the panel and adjacent to a control transformer (1000V/110V). He reached down to retrieve the cover and his glove caught on the sharp edges of exposed terminal lugs of the control transformer which punctured the rubber glove. He received a 1000V electric shock through his wrist when the current arced between two exposed cable terminals through the puncture holes in the gloves. He was able to remove himself from the panel and drove to the workshop. See [SIR No. 275: Electrician received 1000V electric shock and burns](#)
- In June 2018, and reported on 28 May 2019, a scaffolder fell while crossing a void 5.7 metres above the ground. The scaffolder was wearing a fall arrest harness with a retractable type lanyard connected to a horizontal guardrail of a scaffold platform. When stepping 1.3 metres laterally to access a pipe support structure, the inertia reel mechanism of the lanyard engaged, impacting the scaffolder's balance. This caused the scaffolder to fall backwards through the void and swing against the scaffold structure. The webbing on the retractable lanyard then sheared below the shock (energy) absorber component. The scaffolder fell approximately four metres. See [SIR No. 276: Fall from height after failure of retractable type lanyard](#)





## International

### New Zealand

#### **DANGEROUS INCIDENTS**

In New Zealand, six dangerous incidents of note were published in this quarter:

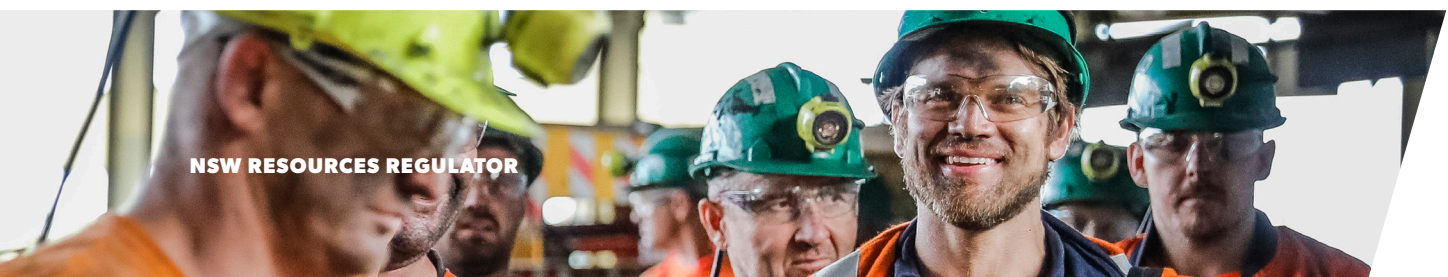
- A Safety Alert published in April 2019 reported a dangerous incident where a dump truck operator was exiting out of a work area and travelling along the haul road when an approaching fuelling vehicle contacted the right-hand side front tyre of the dump truck. The driver of the fuelling truck admitted to being distracted while looking at his iPad in the vehicle. See [Safety alert](#)
- A Safety Alert published in April 2019 reported a dangerous incident where a worker approached the side of a mobile crusher to clear away rocks that had fallen onto the catwalk and was hit by a rock falling from an operating mobile crusher conveyer. See [Safety alert](#)
- A Safety Alert published in May 2019 reported a dangerous incident where a loaded articulated dump truck was travelling down a haul road and the bin rolled onto its side after negotiating a corner. The findings from the investigation indicated that speed at this corner was the major contributing factor. See [Safety alert](#)
- A Safety Alert published in May 2019 reported a dangerous incident during a blast where fly rock was ejected about 300 metres beyond the exclusion zone and into an area thought to be a safe zone. See [Safety alert](#)
- A Safety Alert published in May 2019 reported a dangerous incident where the operator of an articulated water cart reversed down a ramp with the spray bars turned on. The rear right tyre rode up a rock face and the truck body, with half a tank of water, tipped onto its right-hand side. The operator tried to drive forward while the body was tipping which caused the cab of the truck to tip to the opposite side. The operator was wearing a seatbelt and was not injured. See [Safety alert](#)
- A Safety Alert published in June 2019 reported a dangerous incident where a supervisor inspecting a stockpile area observed a ramp and stockpile tip area that had inadequate side berms and no stop bund at the top of the stockpile tipping edge. The angle of repose from the tipping edge was approximately eight metres. 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 13 May 2019, a 59-year-old supervisor, with 40 years of experience, was fatally injured when the crane he was operating fell 25 metres into the quarry at which he was working. See [Fatality alert](#)
- On 18 May 2019, a 34-year-old plant operator with eight years of experience received fatal injuries when he was ejected from a man lift basket. The victim was tramming while elevated at 28 feet. The miner was wearing a fall protection harness with a retractable lanyard, but it was not secured/tied off to the man lift basket. See [Fatality alert](#)
- On 22 May 2019, a 48-year-old continuous mining machine operator with 12 years of experience was severely injured when a section of coal/rock rib measuring, 48 to 54" long, 24" wide, and 28" thick, fell and pinned him to the mine floor. At the time of the accident, the victim was in the process of taking the second cut of a crosscut and was moving the mining machine cable that was adjacent to the coal/rock rib. The victim was hospitalised and due to complications associated with his injuries, passed away eight days later. See [Fatality alert](#)
- On 10 June 2019, a 22-year-old contractor with three years of experience was fatally injured when he was pinned between a front-end loader and a concrete block. The victim was working in a conduit trench, preparing to install a junction box. The plant manager was using a front-end loader above to back fill the trench. The front-end loader over travelled the edge and toppled into the trench. See [Fatality alert](#)
- On 24 June 2019, a 34-year-old contractor with ten years of experience received fatal injuries after falling beneath the wheels of a tractor-trailer. Miners were using a bulldozer to pull the tractor-trailer which had become stuck in the sand. The victim was seen walking on the side of the vehicle and died at the scene from crushing injuries after being run over by the truck wheels. See [Fatality alert](#)



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# Industry safety profile

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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 7,393 active mines in NSW this quarter. The table 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 (123 of 7,393). The small mines sector, which comprises metalliferous mines, quarries and other gemstones, represents around 36% (2,648 of 7,393). Almost half (48%) of all active mines are opal mines (3,564 of 7,393).

**TABLE 2.** NUMBER OF ACTIVE MINES BY SECTOR AS AT 3 JULY 2019

Reporting sector	Surface	Underground	Total
Coal mines	77	46	123
Large mines – Metalliferous and Quarries	20	18	38
Small mines – Metalliferous, Quarries and Other Gemstones	2,610	38	2,648
Petroleum and Geothermal sites (including Exploration)	267	0	267
Opal mines	3	3,561	3,564
Exploration sites (excluding Petroleum and Geothermal)	753	0	753
Total	3,730	3,663	7,393

## 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 200 individual mines reported safety incidents to the NSW Resources Regulator.

**TABLE 3.** SAFETY INCIDENT NOTIFICATIONS AND MINE REPORTING RATES IN NSW – APRIL 2018 TO JUNE 2019

	Q4 2017-18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Q4 2018-19	Total
Number of incidents notified	506	480	539	513	495	2,533
Mines that notified incidents	93	103	109	106	101	200
Incidents per notifying mine	5.4	4.7	4.9	4.8	4.9	12.7

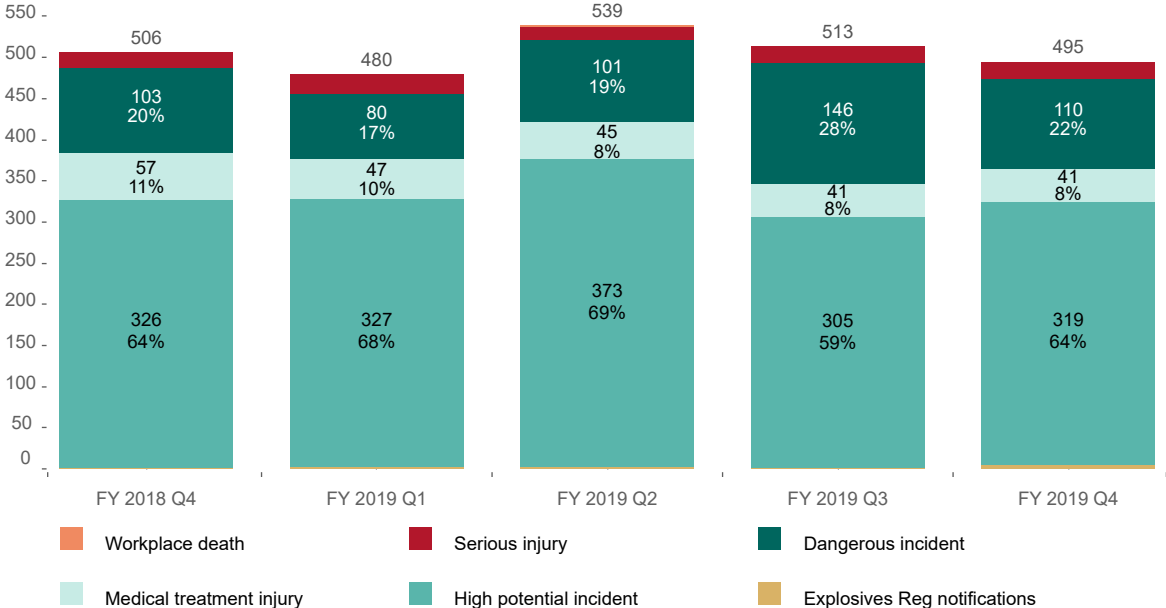


The graph below shows the number of safety incident notifications received over the past five quarters.

In the current April - June 2019 quarter (quarter four of the 2018-19 year), the NSW Resources Regulator received a total of 495 safety incident notifications. This represents a slight decrease of 2% compared to the same period a year before (quarter four of the 2017-18 year).

A clear majority of safety incident notifications received in the current quarter (64%) relate to high potential incidents. A further 22% relate to dangerous incidents.

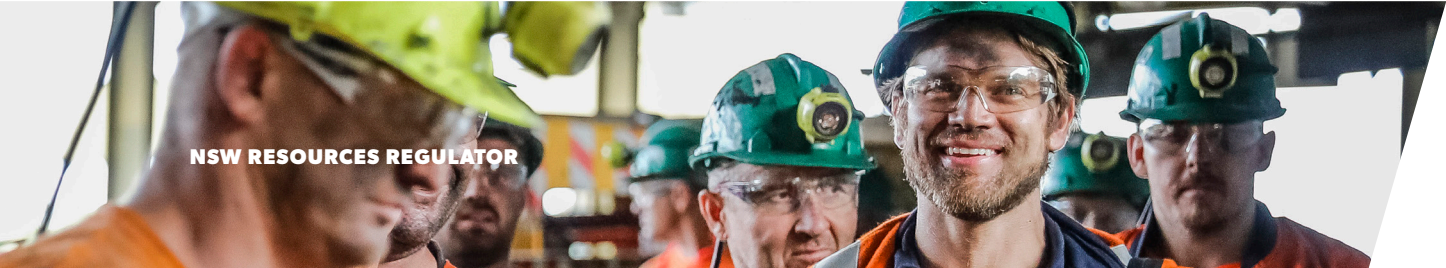
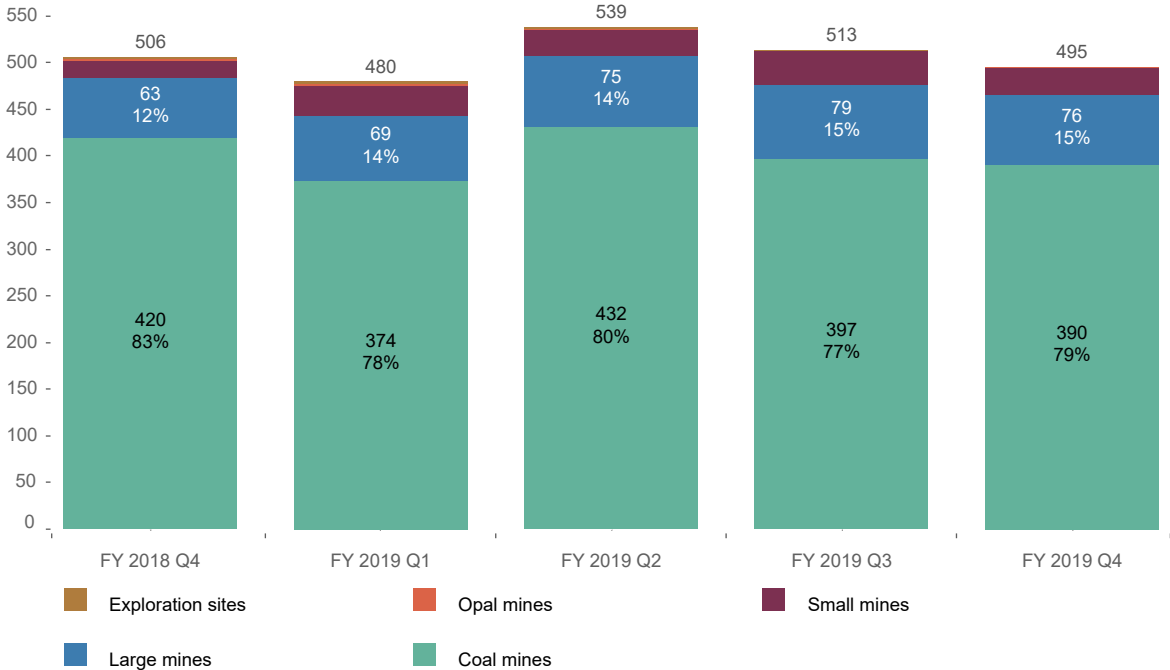
**FIGURE 1. SAFETY INCIDENT NOTIFICATIONS BY TYPE – APRIL 2018 TO JUNE 2019**



As seen in the graph below, in the current quarter (April, May and June 2019), most safety incident notifications received (79%) were from coal mines. Over the last five quarters, the proportion of safety incident notifications by coal mines has remained steady, between 77% to 83%, with only minor fluctuations. There was a slight decrease (2%) in safety incident notifications from coal mines, compared to the previous quarter's data (quarter 3 of the 2018-2019 year).

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

**FIGURE 2. SAFETY INCIDENT NOTIFICATIONS BY SECTOR – APRIL 2018 TO JUNE 2019**



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# Compliance activities

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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 regarding compliance activities, priorities, outcomes and reports are published on our [website](#).

## High visibility operation

The NSW Resources Regulator conducted a state-wide high visibility compliance operation between Monday 17 June 2019 and Friday 21 June 2019. It involved approximately 85 safety and compliance inspectors conducting unannounced inspections at 112 coal, metalliferous and quarrying operations throughout NSW. The operation examined general compliance under the *Mining Act 1992* and Work Health and Safety (Mines and Petroleum Sites) Regulation 2014, with a focus on the site safety management systems, supervision of workers, communication arrangements between shifts and rehabilitation of mine sites.

### MINE SAFETY INSPECTIONS

Of the 112 sites visited, targeted work health and safety inspections were completed at 76 mines from the following sectors:

- 35 coal mines
- 20 large mines – metalliferous and quarries
- 19 small mines – metalliferous and quarries
- 2 petroleum and geothermal sites

The 76 mine safety inspections focussed on assessing the standard of supervision and its impact on the implementation of key risk controls, with a particular focus on the behaviours and effectiveness of supervisors in dealing with non-compliances to the mine's own safety management system.

Although compliance rates were observed to be high, the table below outlines the statutory notices that were issued during these inspections. On balance, the majority of compliance issues identified were considered minor.

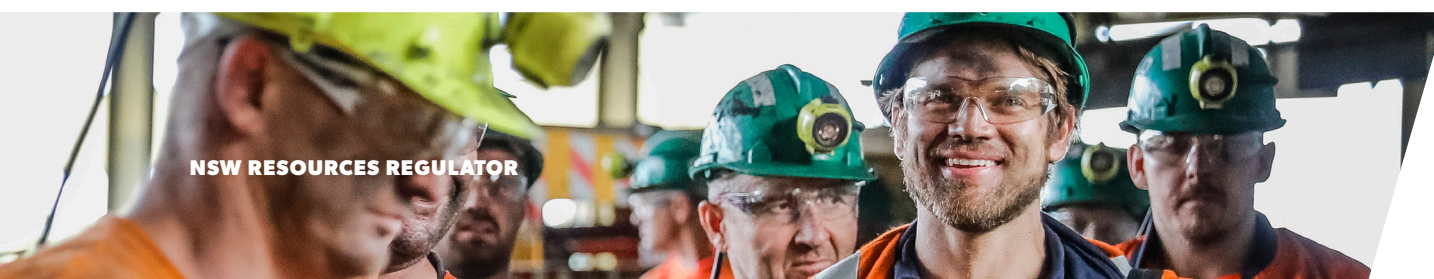
The table below shows that for all sectors the notice rate per mine visited was 1.28. That equates to roughly every mine visited having received one notice. Large mines (metalliferous and quarries) had the highest rate notice rate per mine visited at 1.65.

**TABLE 4.** STATUTORY SAFETY NOTICES ISSUED DURING THE HIGH VISIBILITY COMPLIANCE OPERATION – JUNE 2019

Sector	No. of mines visited	Number of s23 notices of concern issued	Number of s191 improvement notices issued	Number of s195 prohibition notices issued	Total number of notices issued	Notice rate per mine visited
Coal mines	35	21	17	0	38	1.09
Large mines – metalliferous and quarries	20	9	22	2	33	1.65
Small mines – metalliferous and quarries	19	5	14	5	24	1.26
Petroleum and geothermal sites	2	1	1	0	2	1.00
<b>Total</b>	<b>76</b>	<b>36</b>	<b>54</b>	<b>7</b>	<b>97</b>	<b>1.28</b>

The NSW Resources Regulator is committed to ensuring that identified issues which do, or are likely to, impact on risks to worker health and safety are being addressed. The high visibility operation is an effective means to raise industry awareness on these issues and to maintain industry focus on their safety obligations.

A full report into this operation is available on the NSW Resource Regulator’s website ([State-wide compliance operation report 2019](#)).





## Safety prosecutions

In the current quarter, the NSW Resources Regulator commenced three prosecutions. See table below.

**TABLE 5.** SAFETY PROSECUTIONS COMMENCED – APRIL 2019 TO JUNE 2019

Case name Incident date	Legislation	Defendant	Allegation / Background
Peak Gold Brilley 3 April 2017	<i>Work Health and Safety Act 2011</i>	Peak Gold Mines Pty Ltd	Contravened s 32, failed to comply with duty under s 19(1).  A worker died in a large underground metal, mine working in hot and inadequately ventilated conditions.
Moolarben Flyrock 17 May 2019	<i>Work Health and Safety Act 2011</i>	Michael Chaplin Individual	Contravened s 32, failed to comply with duty under s 28.  Six workers exposed to potential for injury or death from flyrock from an open cut blast at Moolarben Coal Mine
Moolarben Flyrock 17 May 2019	<i>Work Health and Safety Act 2011</i>	Moolarben Coal Operations Pty Ltd ACN 077 939 569	Contravened s 32, failed to comply with duty under s 19(1).  Six workers exposed to potential for injury or death from flyrock from an open cut blast at Moolarben Coal Mine

One prosecution was finalised this quarter. See table below.

**TABLE 6.** SAFETY PROSECUTIONS FINALISED – APRIL 2019 TO JUNE 2019

Case name Incident date	Legislation	Defendant	Allegation/Background	Decision
CSA Hern 11 June 2014	<i>Work Health and Safety Act 2011</i>	Cobar Management Pty Limited  ACN 083 171 546	Contravened s 32, failed to comply with duty under s 19(1).  A worker died by drowning underground when attempting to unblock a sump drain hole.	27 May 2019  The prosecution has not proved all of the elements of the offence beyond reasonable doubt.

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

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

## Safety incidents of note

In the current quarter, the NSW Resources Regulator commenced investigation work into five safety incidents of note.

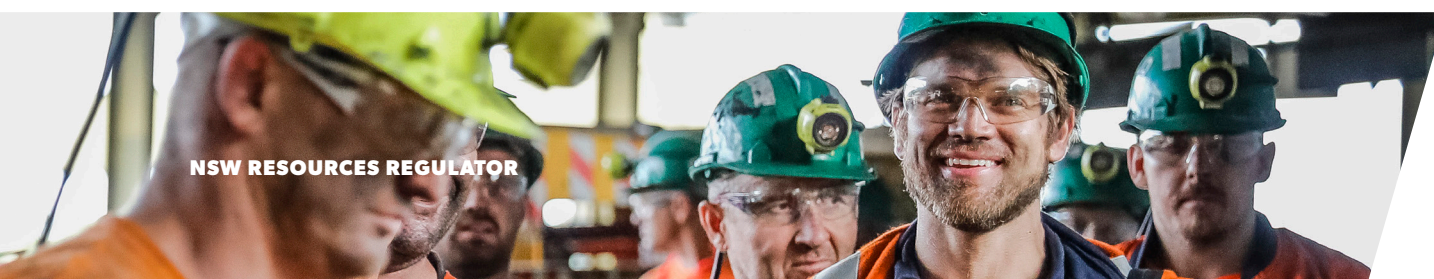
Detailed in the table below, is one investigation information release published during this quarter relating to an incident in the current quarter and one incident in the previous quarter.

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

**TABLE 7.** SAFETY INCIDENTS OF NOTE – APRIL 2019 TO JUNE 2019

Date of incident	Location of incident	Summary of incident
13 April 2019 <a href="#">SA19-02</a>	Underground metalliferous mine	A fire occurred on an agitator truck in an underground metals mine in Cobar on 13 April 2019. The fire spread quickly with non-metallic engine covers and guards adding to the fuel load and the intensity of the fire. 19 workers underground at the time had to retreat to refuge chambers while the fire was brought under control. See Safety Alert - <a href="#">SA19-02</a>

Date of incident	Location of incident	Summary of incident
27 May 2019 <a href="#">IIR 19-04</a>	Surface coal mine	A collision occurred between a Caterpillar D11T dozer operating semi-autonomously and a manned Hitachi EX1200 hydraulic excavator on Monday 27 May 2019. The excavator operator was scaling a section of a highwall in the operating area of the semi-autonomous dozer fleet when the dozer contacted the rear of the excavator. The excavator was pushed approximately 1.5 metres sideways. After five seconds the dozer's semi-autonomous system identified that it had experienced track slip and stopped tramming as programmed. See Investigation information release - <a href="#">IIR 19-04</a>
30 May 2019 <a href="#">IIR 19-07</a>	Underground coal mine	A worker suffered shoulder and wrist injuries after being struck by a continuous miner that slid down the sloping grade of a longwall development roadway. The worker was provided first aid and transported to hospital for treatment. See Investigation information release - <a href="#">IIR 19-07</a>
8 June 2019 <a href="#">IIR 19-06</a>	Underground coal mine	A worker suffered serious injuries when his foot became trapped in a scraper conveyor while working underground at Appin North Mine on 8 June 2019. The worker was taken to hospital and required surgery. See Investigation information release - <a href="#">IIR 19-06</a>
23 June 2019 <a href="#">SA 19-03</a>	Underground coal mine	An incident occurred on 23 June 2019 with a conveyor chain jammed when it was being pulled through the bottom race and around the foot shaft sprocket at the front of the continuous miner. One side of the flight bar failed and was ejected from the tensioned sling towards the worker who was standing near the rib bolter controls on the right-hand side of the continuous miner. See Safety alert - <a href="#">SA 19-03</a>



## Safety notices issued

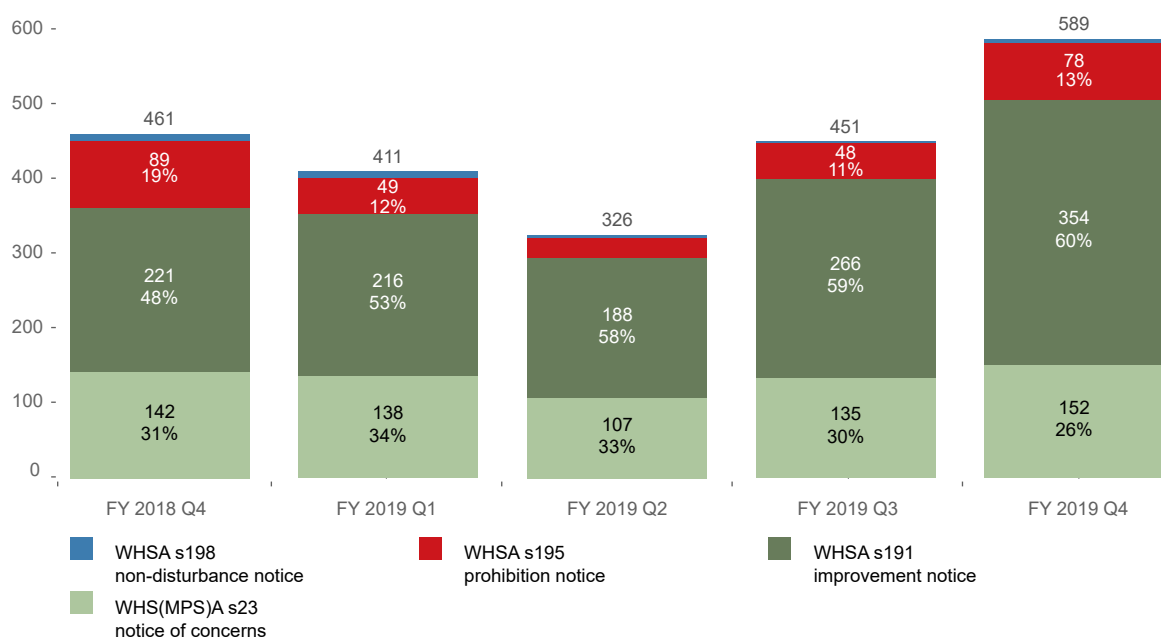
Safety notices issued by the NSW Resources Regulator include prohibition and improvement notices, notices of concern (written notice of matters) and non-disturbance notices.

The graph below shows the number and types of safety notices issued in the five quarters since April 2018. The number of notices issued over the five quarters does vary but there has been an apparent upward trend in notices over the last two quarters (since the beginning of quarter three 2018-2019). The variability seen is, in part, a reflection of the nature of inspection activity. In addition, the NSW Resources Regulator is currently undertaking proactive compliance programs focussed on priority areas which would account for the recent increase. The high visibility operation conducted recently is just one example of this.

In the current April - June 2019 quarter (quarter four 2018-19), the NSW Resources Regulator issued a total of 589 safety notices. This represents an increase from the 451 safety notices issued in the previous quarter. More than half (60%) of safety notices were section 191 improvement notices, 26% were section 23 notices of concern and 13% (78 of 589) were section 195 prohibition notices.

This equates to the NSW Resources Regulator issuing, on average, one prohibition notice for approximately every five improvement notices.

**FIGURE 3. SAFETY NOTICES ISSUED BY TYPE – APRIL 2018 TO JUNE 2019**

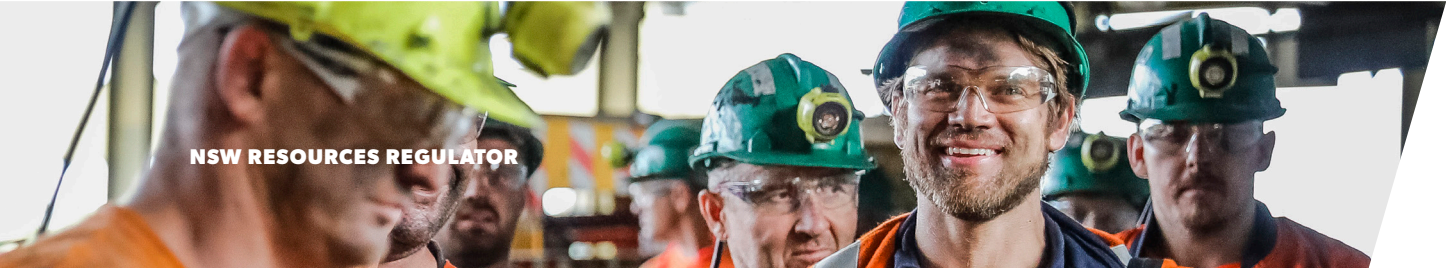
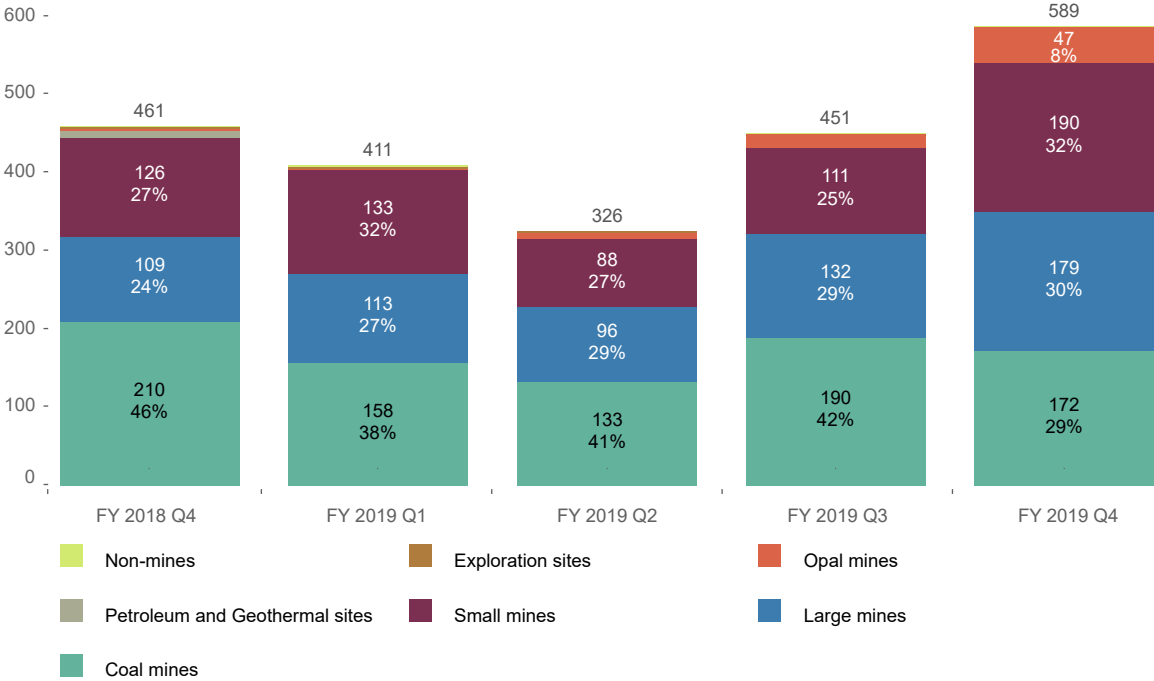




For the April - June 2019 quarter, 29% of safety notices were issued to coal mines. This represents approximately a 10 % decrease for the sector as compared to the previous quarter. Around 30% of safety notices were issued to large mines which represents a 36% increase to the previous quarter. Approximately 32% of safety notices were issued to small mines representing a 71% increase compared to the January to March 2019 quarter.

Collectively, these three sectors accounted for 92% of all safety notices issued in the current quarter.

**FIGURE 4. SAFETY NOTICES ISSUED BY SECTOR – APRIL 2018 TO JUNE 2019**



## Safety notices and assessments conducted

The table below lists the safety 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 assessment conducted was 0.47 which indicates that roughly half of assessments resulted in a notice being issued. In comparison, in the small mines sector, the notice rate was 1.34, indicating that there were more notices issued than assessments.

For the petroleum and geothermal sector, 39 assessments did not result in any notices being issued.

**TABLE 8.** SAFETY AND ASSESSMENTS BY SECTOR – APRIL 2019 TO JUNE 2019

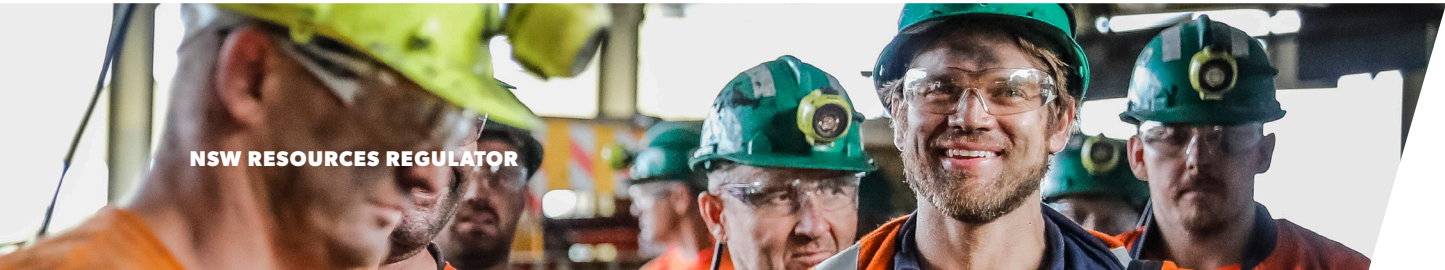
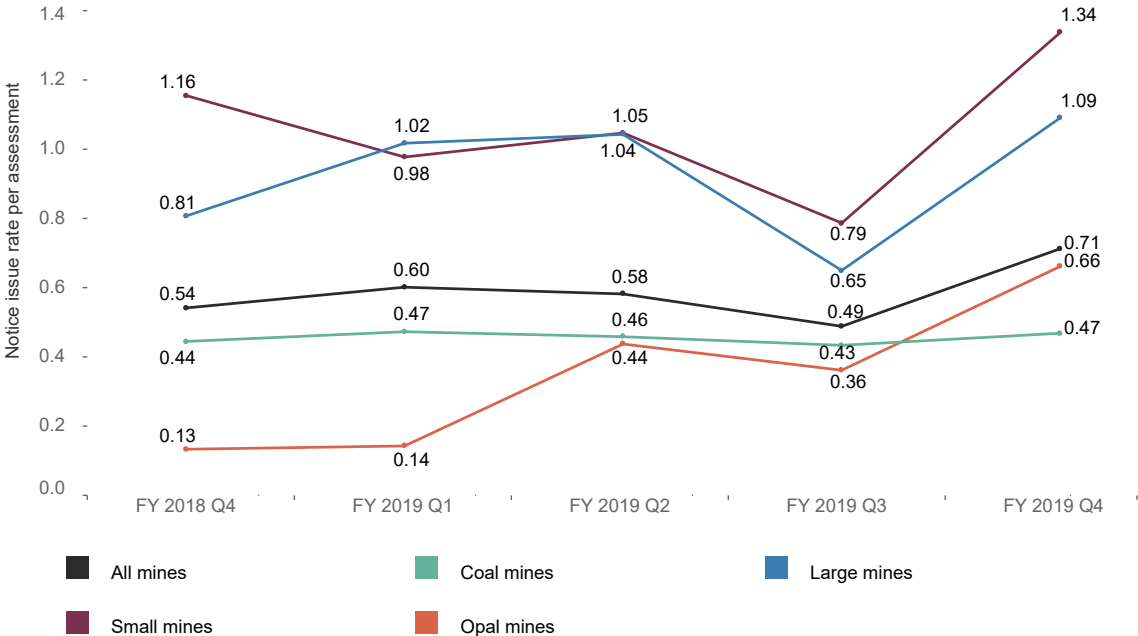
	Notices issued	Safety assessments	Notice issue rate per assessment
Coal	172	367	0.47
Large mines and quarries	179	164	1.09
Small mines and quarries	190	142	1.34
Opal mines	47	71	0.66
Petroleum/geothermal	0	39	0
Exploration	0	0	0
Non-mine*	1	43	0.02
All mines	589	826	0.71

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

The graph below shows the safety notice issue rate per assessment for the five quarters since April 2018 for the coal, large mines, small mines and opal sectors as well as a total safety notice issue rate per assessment of all sectors combined.

Sector results tend to fluctuate over time due to small numbers of assessments and notices but overall the safety notice issue rate per assessment is showing an increasing trend. As noted earlier, the NSW Resources Regulator is currently undertaking proactive compliance programs focussed on priority areas which would account for the recent rate increase. The recent high visibility operation is just one example of this.

**FIGURE 5. SAFETY NOTICE ISSUE RATE PER ASSESSMENT BY SECTOR – APRIL 2019 TO JUNE 2019**



### PROACTIVE AND REACTIVE ASSESSMENTS

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

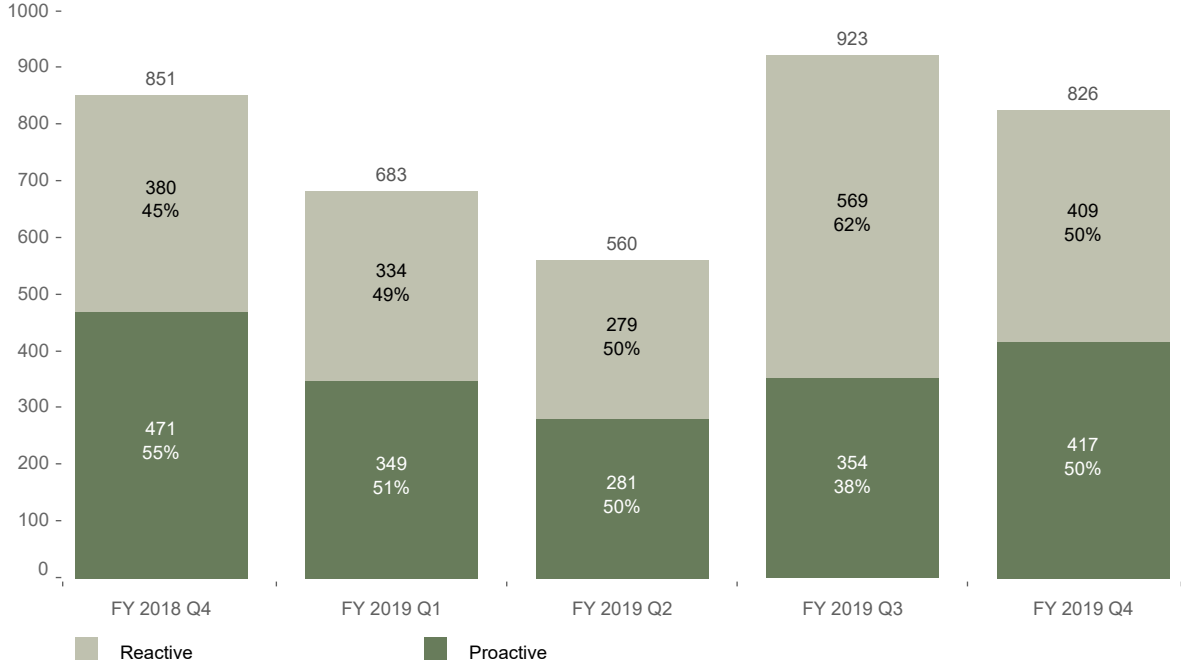
The purpose of targeted assessments (TAPs) and planned inspections (PIs) is to identify potential compliance weaknesses which could lead to an incident or injury. Both follow a pre-prepared plan focusing on principal mining hazards. TAPs focus closely on one mining hazard per assessment. PIs also focus on a specific hazard including principal control plans.

Explosion suppression assessments, in underground coal mines, continue to represent another important proactive program of work.

The graph below shows that for each quarter, over the past five quarters, regulatory efforts across all sectors was split between proactive and reactive programs (both desktop and site assessment). See the following for more information.

In the past 15 months, the NSW Resources Regulator conducted, on average, 374 proactive assessments (activities not related to incidents and complaints) each quarter. This represents approximately 49%, as an average, of all assessments. In quarter four 2018-19, 50% of assessments were proactive in nature.

**FIGURE 6. PROACTIVE AND REACTIVE SAFETY ASSESSMENTS – APRIL 2018 TO JUNE 2019**



## PROACTIVE SAFETY ASSESSMENTS

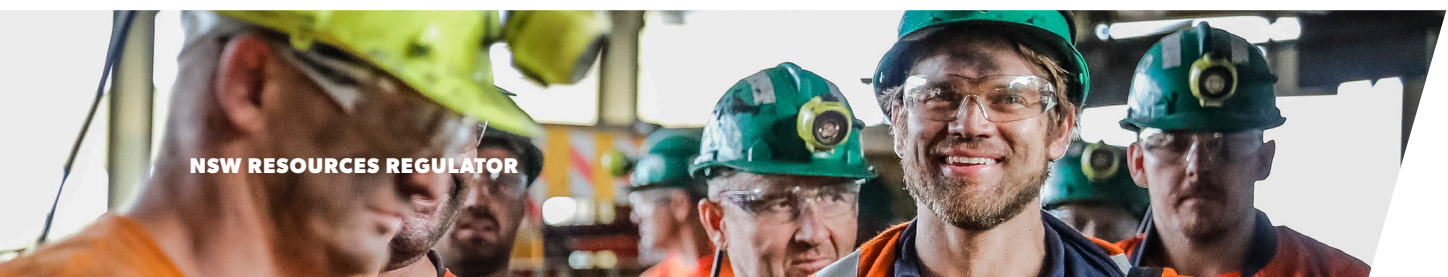
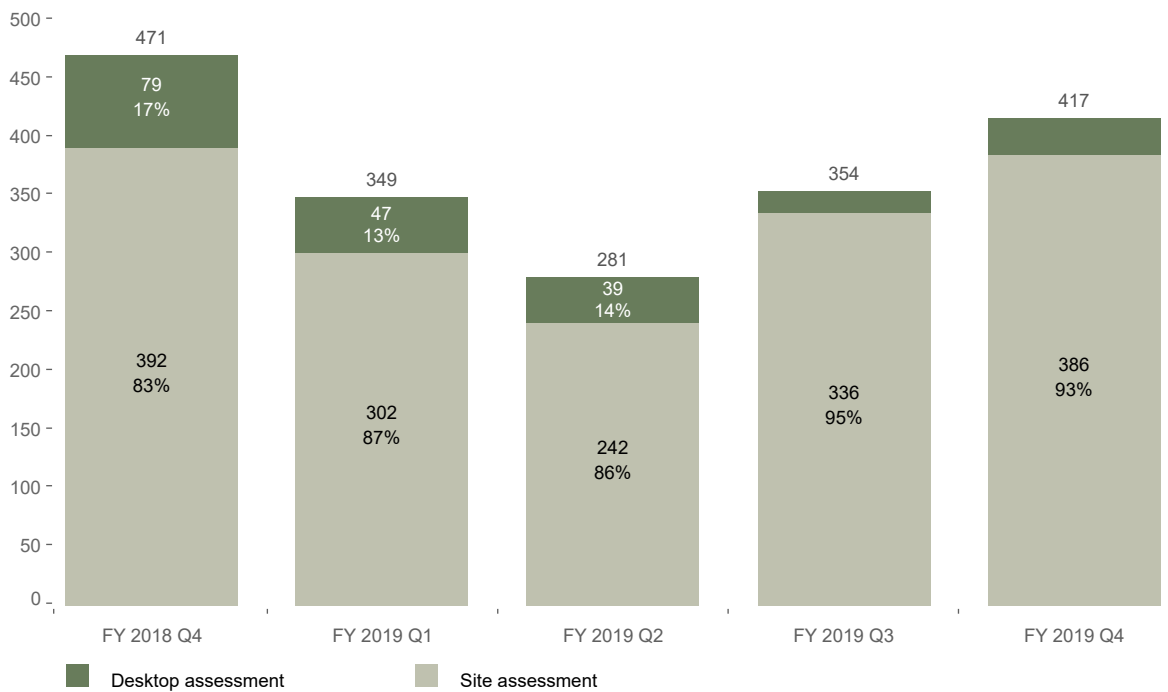
The graph below shows the proportion of site-based and desktop activity undertaken for proactive safety assessments, for each quarter since April 2018.

Site based (visiting mine sites) and desktop activities are both important regulatory tools.

Desktop activity includes: 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.

During the past quarter, approximately 93% of proactive safety assessments involved site inspection. In fact, for the last five quarters, an average of 89% of proactive safety assessments involved site-based activity.

**FIGURE 7.** PROACTIVE SAFETY ASSESSMENTS – APRIL 2018 TO JUNE 2019



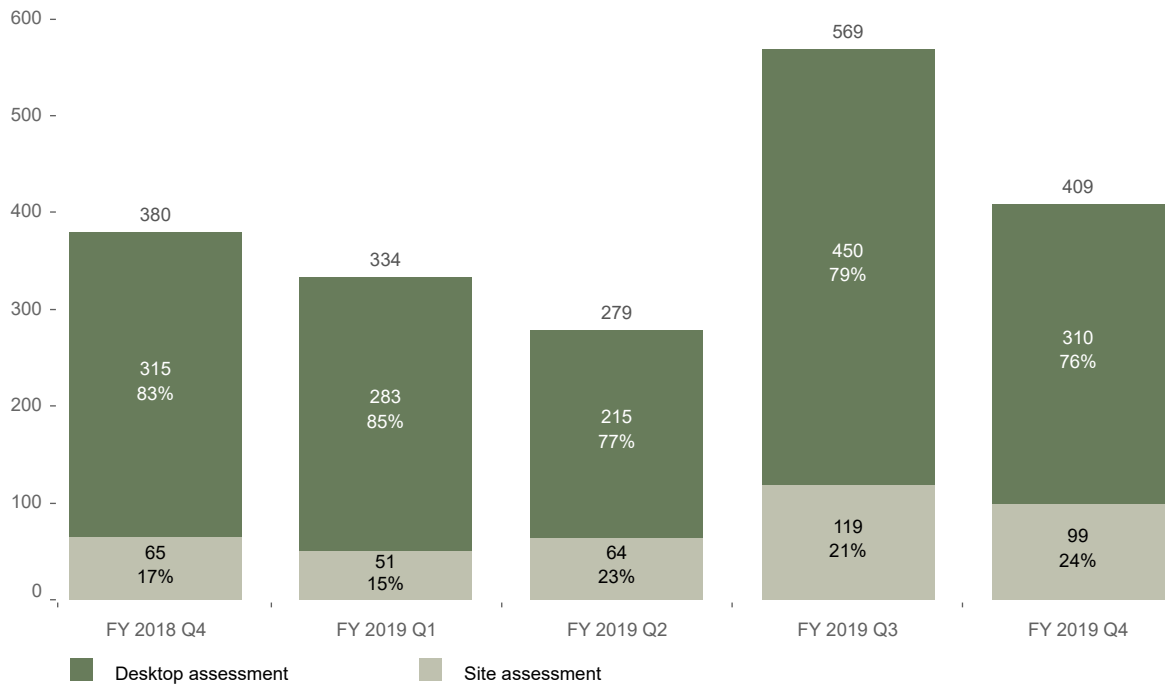


## REACTIVE SAFETY ASSESSMENTS

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

Over the last five quarters, around 80% of reactive safety assessments involved desktop activity. Over the last quarter, 76% of reactive safety assessments involved desktop assessment.

**FIGURE 8.** REACTIVE SAFETY ASSESSMENTS – APRIL 2018 TO JUNE 2019



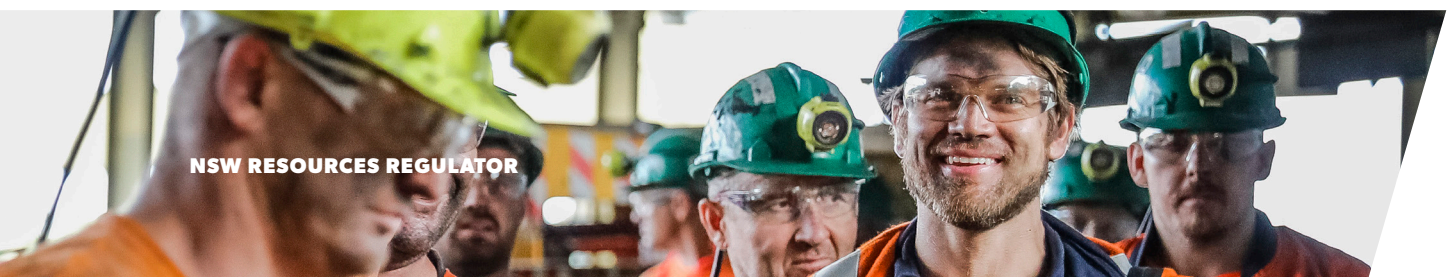
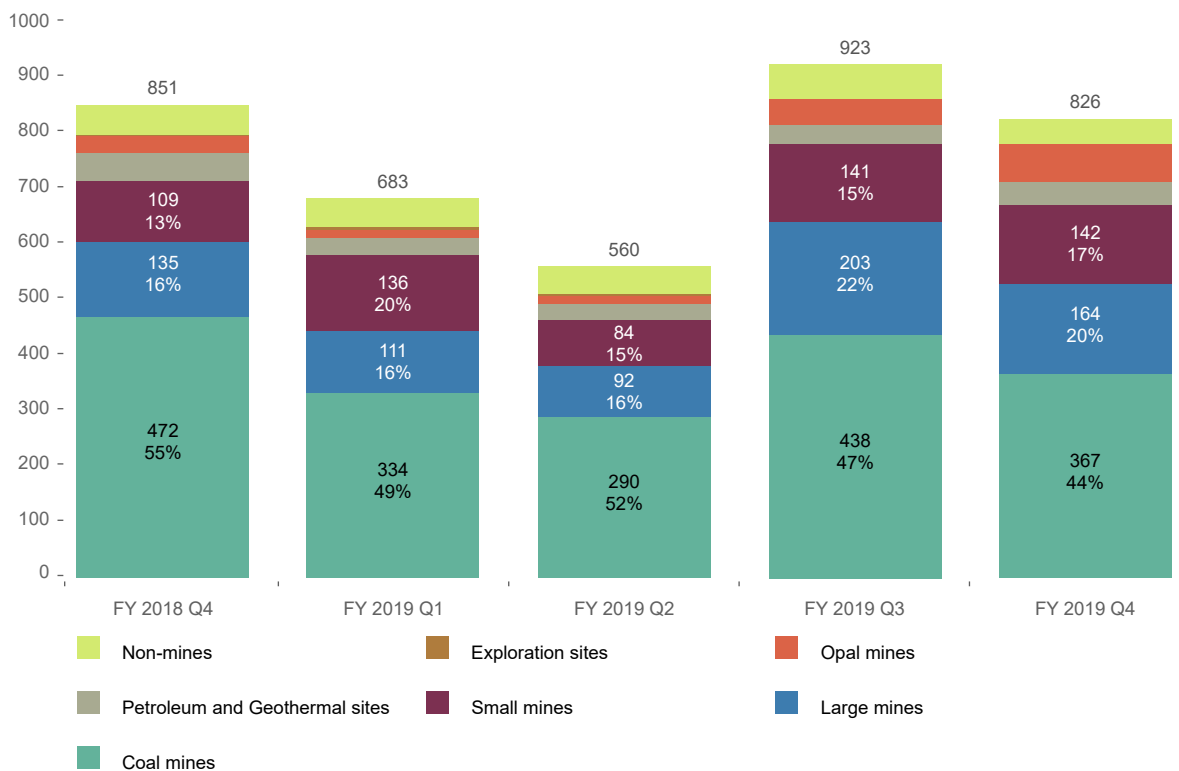
## Safety assessments by sector

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 11% fewer safety assessments carried out in this quarter as compared to the previous quarter. The variability seen is, in part, a reflection of the nature of inspection activity. Both the large mine and coal mine sectors accounted for the most of this decrease which reflects the added focus during the high visibility operation in those areas.

The graph below shows that the coal sector continues to be a priority for the NSW Resources Regulator safety assessment programs, accounting on average for 49% of safety assessments over the previous five quarters. See the sector profile sections of this report for more details.

**FIGURE 9. SAFETY ASSESSMENTS BY MINING SECTOR – APRIL 2018 TO JUNE 2019**

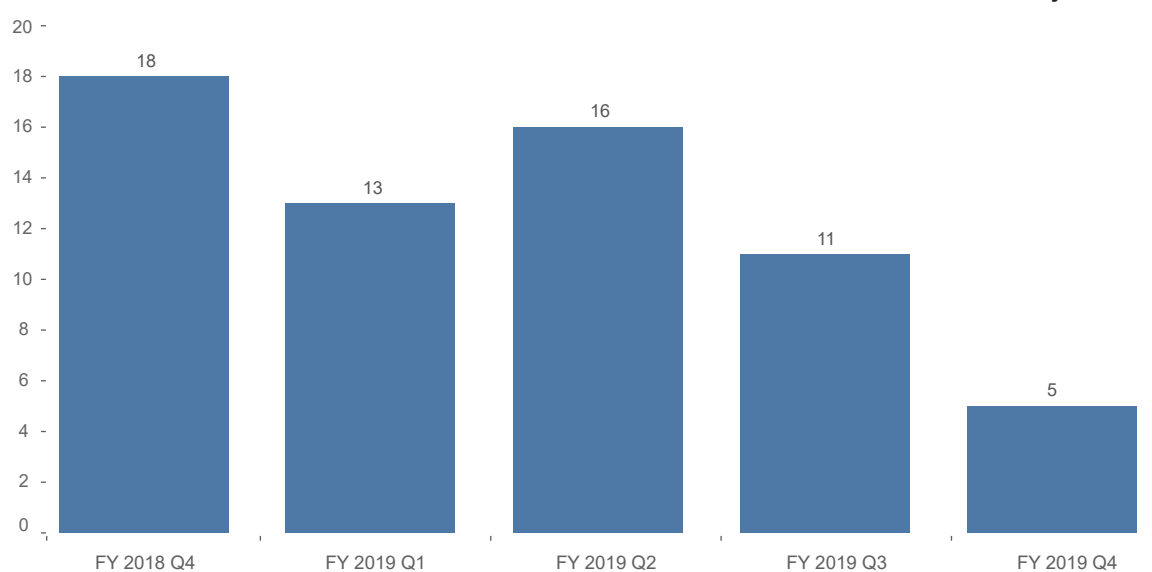


## Targeted assessment program

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, five TAPs were conducted. Details are in the table below.

**FIGURE 10.** TARGETED ASSESSMENT PROGRAMS CONDUCTED – APRIL 2019 TO JUNE 2019



**TABLE 9.** TARGETED ASSESSMENT PROGRAMS CONDUCTED – APRIL 2019 TO JUNE 2019

Date	Hazard	Mine
30 April 2019	Airborne contaminants	Wambo open cut
21 May 2019	Fatigue	Cadia East Project
22 May 2019	Airborne contaminants	Hunter Valley Operations
29 May 2019	Diesel exhaust emissions	Metropolitan Colliery
12 June 2019	Fatigue	Hera Mine
Total		5

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# Spotlight on safety

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## NSW Resources Regulator holds workshops and audits to help practising certificate holders

### **PRACTISING CERTIFICATE WORKSHOPS**

The first in a series of workshops on practising certificates and the maintenance of competence, was held on 20 June 2019 in Dubbo. Workshop attendees were encouraged to bring their application or maintenance of competence records, for discussion and advice.

The workshops form part of the NSW Resources Regulator's engagement strategy which was developed in consultation with the Mining and Petroleum Competence Board. The strategy is designed to support people who:

- have not obtained a practising certificate to apply, or
- have a practising certificate and want to understand how to comply with maintenance of competence requirements.

The remaining workshops are scheduled from August to November 2019, in regional NSW locations, including Gunnedah, Broken Hill, Parkes, Lithgow and Wollongong.

### **AUDITS OF PRACTISING CERTIFICATE HOLDERS FOR THEIR MAINTENANCE OF COMPETENCE**

The NSW Resources Regulator is implementing a compliance audit program to ensure practising certificate holders comply with their maintenance of competence conditions. The audit will review hours claimed by practising certificate holders and the nature of the learning/training undertaken, as part of these hours claimed. The audit process will assist informing certificate holders of their compliance conditions, by ensuring verifiable evidence is available and producible, to substantiate the hours claimed.

The auditing program was developed in consultation with the Mining and Petroleum Competence Board and is based on AS/NZS ISO 19011:2018 Guidelines for auditing management systems.

The NSW Resources Regulator will administer the audit program.



## NSW Resources Regulator holds workshops and audits to help practising certificate holders (cont.)

Initially the program will be offered on a voluntary basis until June 2020. Afterwards, a compliance audit program is to be implemented. Further details contained in the table below.

Period	Activity
Jul – Sep 2019	Internal trial - practising certificate audit
Oct 2019 – Jun 2020	Offer of practising certificate audits (externally + voluntary)
Jul 2020 – ongoing	Conduct annual compliance audits, of approximately 10% of all practising certificate holders (external + mandatory)

At the end of the audit program, a general, de-identified report on the learnings and findings, will be made available for the benefit of all stakeholders.

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







## A multi-hazard emergency exercise tests response at Metropolitan coal mine

An uncontrolled fire in a transformer room, hazardous chemicals stored nearby and smoke entering the mine ventilation shaft put the Metropolitan mine emergency plan into action, during a no-notice test exercise on 29 May 2019. Responding emergency services worked with the mine's incident management team to contain the fire on the surface of the underground coal mine and get workers to safety. This coordinated display of the public and private sectors, working together during an emergency scenario, gave the mine a firsthand experience in multiple arrivals by external agency resources to site, including staging response vehicles, briefing agency commanders and working alongside the emergency services in the mine's incident management room.

Staff from Metropolitan mine worked closely with local emergency services during the months leading up to the exercise, to develop the scenario. It provided mine personnel with a realistic, site-based and external agency, integrated response. Agencies involved in the exercise included:

- NSW Police Force
- Fire Rescue NSW
- NSW Rural Fire Service
- NSW Ambulance Service
- Local and Regional Emergency Management Officers
- Coal Services Mines Rescue Brigade
- Resources Regulator

Conducting multi-agency exercises provides an opportunity to test a mine's emergency plan compatibility with emergency services practices and enables mine staff to work with emergency services. Emergency services are then better able to understand the complexities around mining emergencies, as well as gain a better appreciation for the mine's on-site emergency response capabilities. The Metropolitan exercise was followed by a debrief involving all agencies at the local emergency management committee. The aim is to use learnings to update and improve onsite response and emergency plans.

Under the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014, mines are required to test their emergency plan at least annually. In addition, the NSW Mine Sub Plan recommends that every three years mines conduct an exercise that tests the arrangements within the Sub Plan, and to advise the local emergency management committee (LEMC) and regulator, of the exercise. In the case of coal mines, the test of the emergency plan must also have regard to recommendations by emergency services consulted under clause 89 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014.



The NSW Resources Regulator's believes there are lessons to be learnt from the past

### **LEARNING FROM DISASTERS TRAINING**

The NSW Resources Regulator understands learning from experience, preventing devastating reoccurrences and improving the health and safety of all those working in the mining industry, is a profound way to acknowledge and recognise all those affected by mining incidents throughout history.

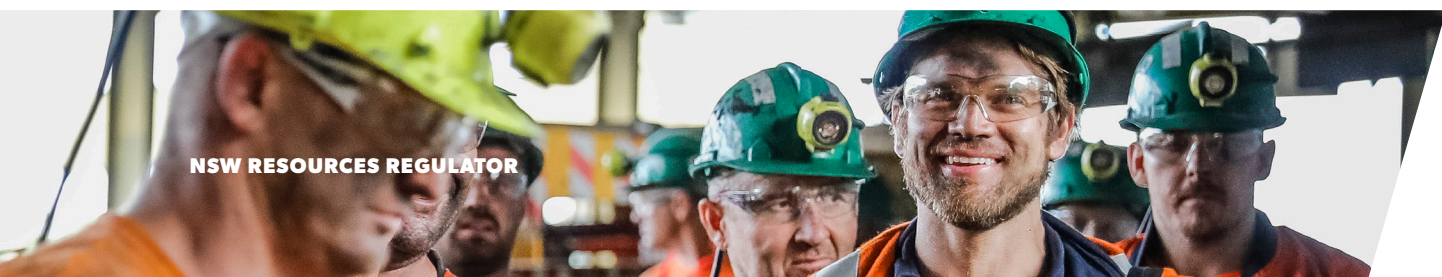
An [interactive timeline](#) of NSW mining disasters from the late 1800s has been developed to communicate lessons from past disasters and conserve knowledge within the NSW Resources Regulator and the mining industry. The timeline links to further information on a selection of these disasters, including reports of Royal Commissions and other inquiries, newspaper and journal articles, photographs and links to websites.

### **TRAINING PACKAGE**

We have developed a Learning from disasters training package consisting of three programs to ensure mine workers and statutory certificate holders learn from past mining disasters. These programs incorporate the findings from investigations and independent reviews of mining incidents that involved fatalities and serious injury, or where the circumstances presented a significant risk of injury or death to workers or the wider community.

The training components include: a one-hour induction or refresher for mine workers, a two-hour session for quarry managers, and a whole day session aimed at holders of practising certificates. The latter will count towards satisfying maintenance of competence conditions.

Full details regarding these programs are available on our [website](#).



# 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 mines safety profile

In the current quarter, there were 123 active coal mines; 77 surface and 46 underground operations. There were 89 'open' coal mines, 24 'under care and maintenance' and two 'intermittent'. The remaining eight had a status of 'planned'.

### SAFETY INCIDENT NOTIFICATIONS

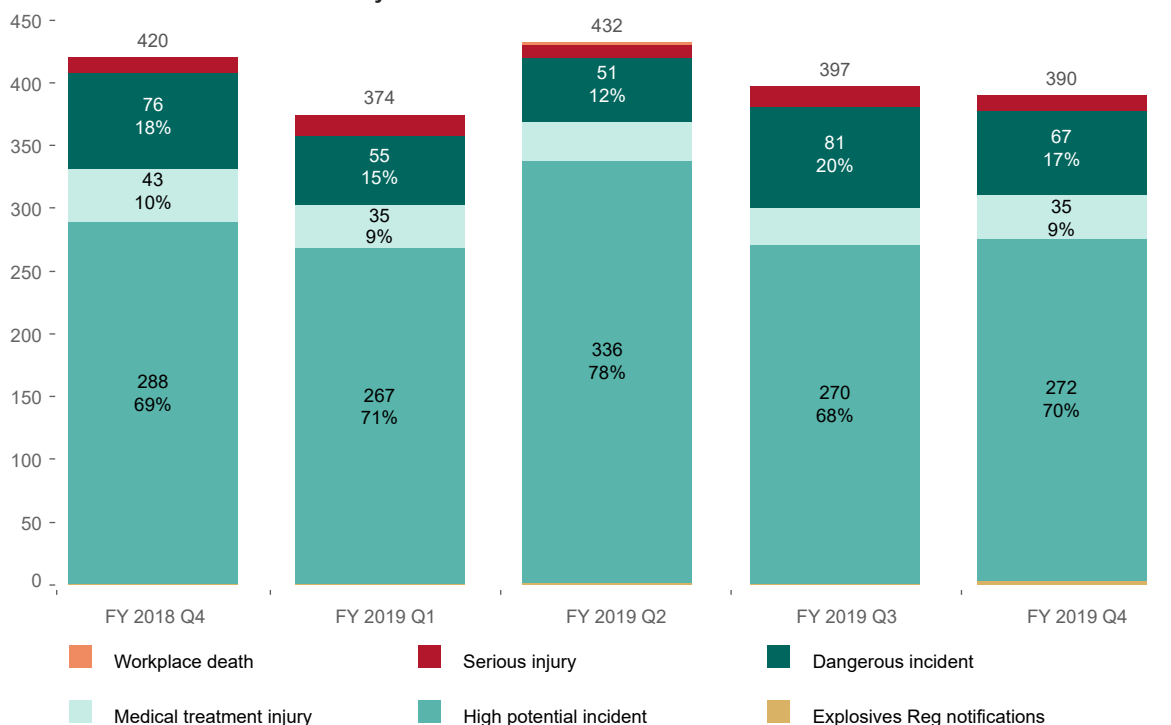
Legislation requires mine operators to notify the NSW Resources Regulator about the occurrence of certain types of safety incidents. (See Appendix 1 for legislative detail)

The graph below shows the number of safety incident notifications received over the past five quarters from the coal sector. This fluctuates but generally shows a steady overall trend over time.

In the current quarter (quarter four of the 2018-19 year), the NSW Resources Regulator received a total of 390 safety incident notifications from the coal mines sector. This represents a 7% decrease when compared to the same period a year before (quarter four of the 2018-19 year).

Most safety incident notifications received in the current quarter (70%) relate to high potential incidents. A further 17% relate to dangerous incidents.

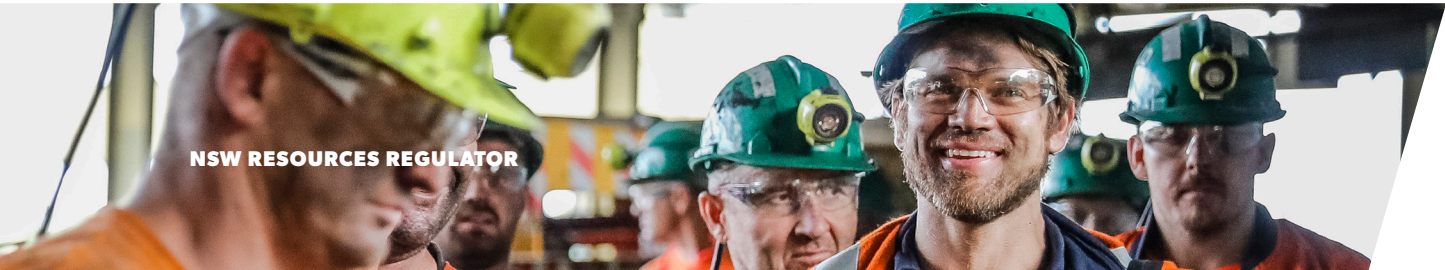
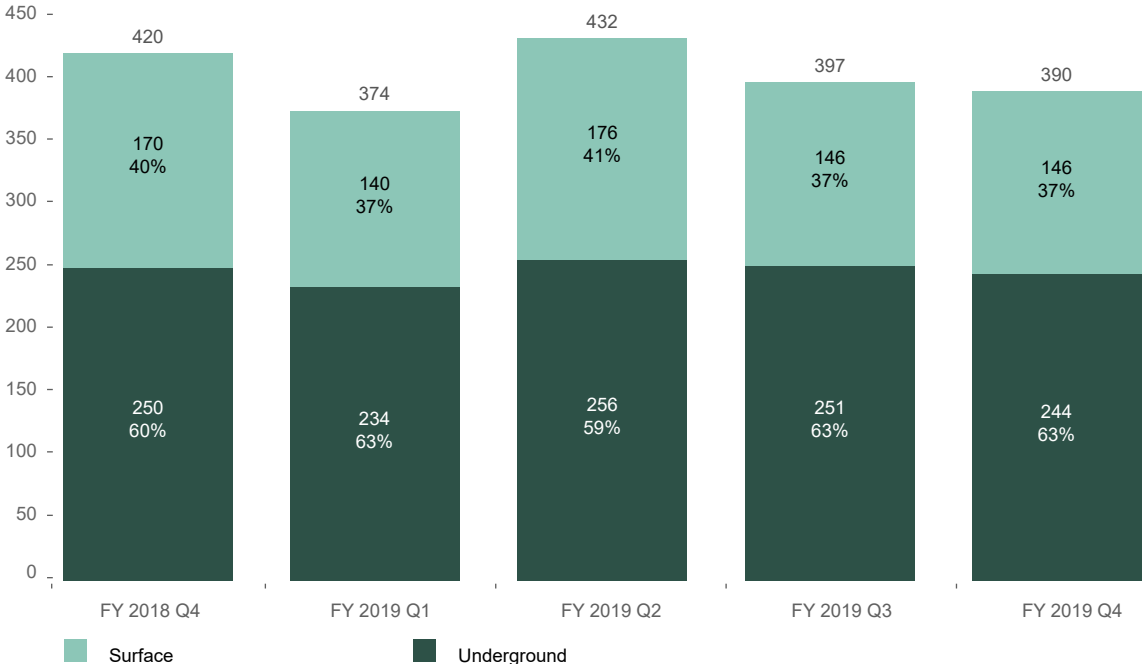
**FIGURE 11. COAL SECTOR SAFETY INCIDENT NOTIFICATIONS BY INCIDENT TYPE – APRIL 2018 TO JUNE 2019**



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

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

**FIGURE 12.** COAL SECTOR SAFETY INCIDENT NOTIFICATIONS BY OPERATION TYPE – APRIL 2018 TO JUNE 2019





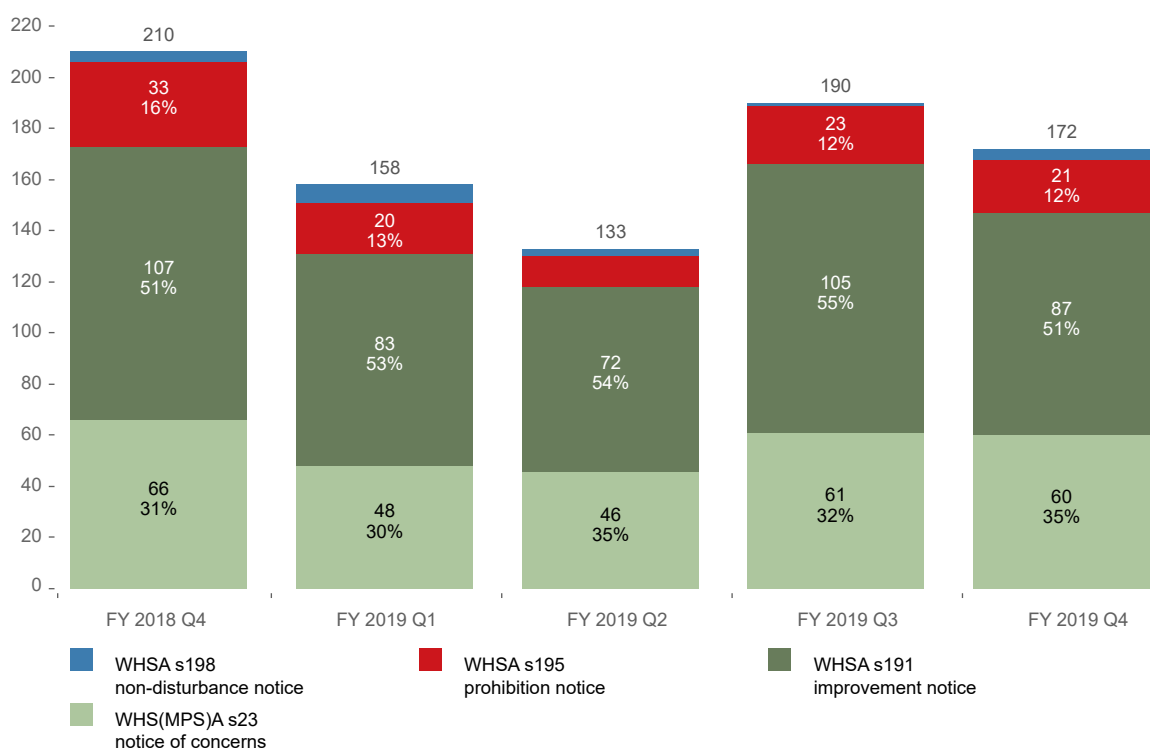
## Coal sector compliance activities

### SAFETY NOTICES ISSUED

The graph below shows the number and types of safety notices issued in the coal sector for the five quarters since April 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 four 2018-19) the NSW Resources Regulator issued a total of 172 safety notices in the coal sector. Just over half (51%) of those were improvement notices, 35% were notice of concerns and 12% (21 of 172) were prohibition notices. This equates to the NSW Resources Regulator issuing, on average, one prohibition notice, for approximately every four improvement notices.

**FIGURE 13. COAL SECTOR SAFETY NOTICES ISSUED – APRIL 2018 TO JUNE 2019**



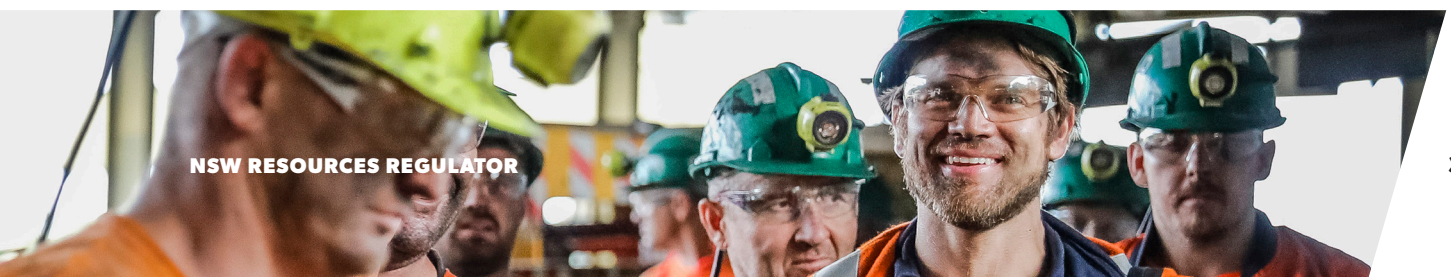
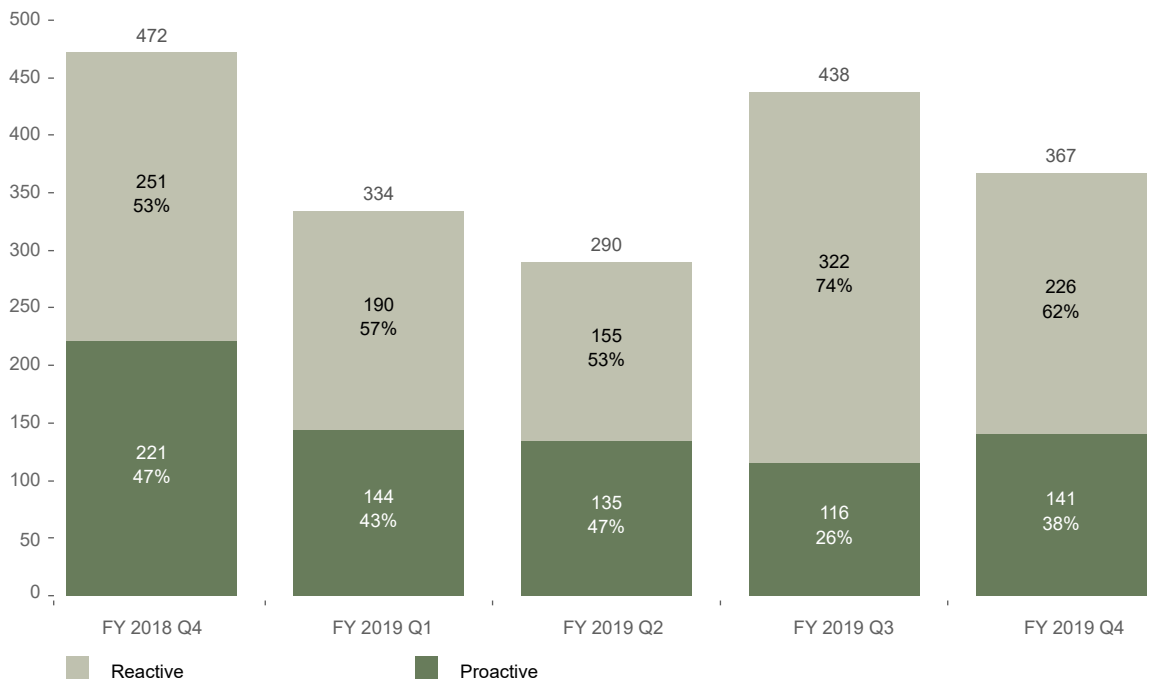
## SAFETY ASSESSMENTS

### PROACTIVE AND REACTIVE ASSESSMENTS

The graph below shows the proportion of safety assessments undertaken in the coal sector for the five quarters since April 2018 that were classified as reactive (incident investigation) or proactive (planned, risk-based interventions). On average, around 151 proactive assessments were conducted each quarter, representing nearly 40% of all assessments.

In the current quarter, 38% of assessments were classified as proactive in the coal sector.

**FIGURE 14.** COAL SECTOR ASSESSMENTS BY NATURE – APRIL 2018 TO JUNE 2019

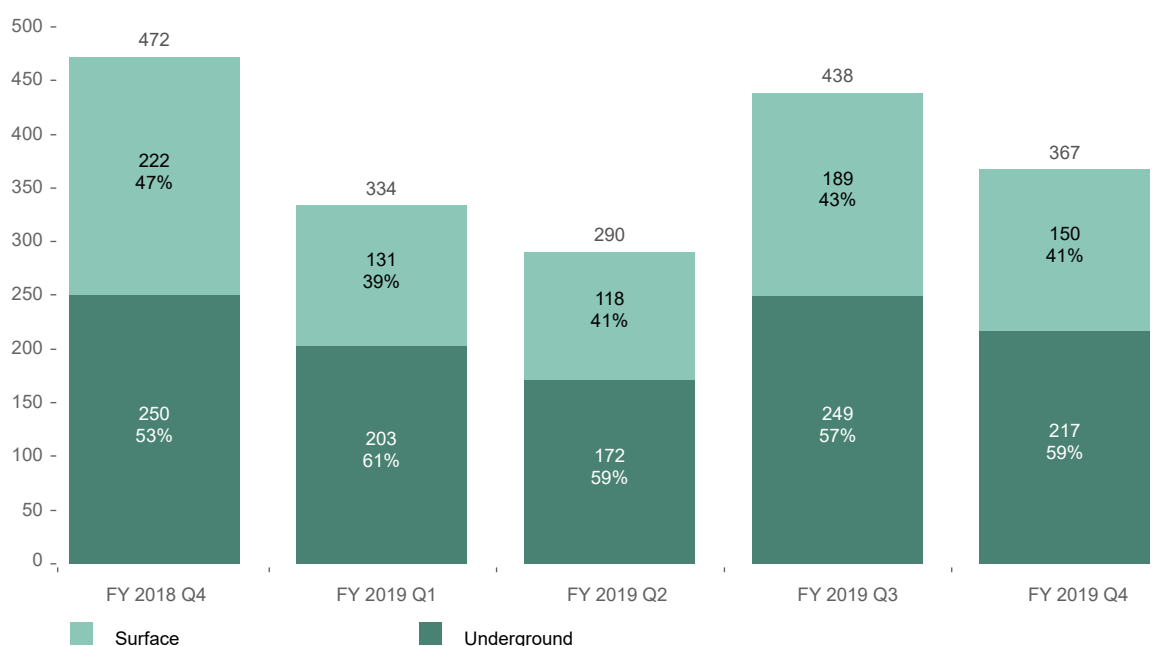


## SAFETY ASSESSMENTS BY OPERATION TYPE

The graph below, shows that in the five quarters since April 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 61% of assessments were in underground coal operations.

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

**FIGURE 15.** COAL SECTOR ASSESSMENTS BY OPERATION TYPE – APRIL 2018 TO JUNE 2019



## TARGETED ASSESSMENT PROGRAM

The table below, shows the TAPs conducted over the three-month reporting period, in the coal sector. Since April 2019, the NSW Resources Regulator conducted three TAPs in the coal sector. Two thirds of the TAPs conducted were at surface operations.

**TABLE 10.** TARGETED ASSESSMENT PROGRAMS COAL SECTOR CONDUCTED – APRIL 2019 TO JUNE 2019

Date	Hazard	Mine
30 April 2019	Airborne contaminants	Wambo open cut
22 May 2019	Airborne contaminants	Hunter Valley Operations
29 May 2019	Diesel exhaust emissions	Metropolitan Colliery
Total		3

## Spotlight on coal sector



### Emerging issues with roadway design compliance at surface coal mines

#### **SURFACE COAL – AN EMERGING TREND**

Over recent months, the NSW Resources Regulator’s inspectors have observed an emerging trend in surface coal operations where a pattern of non-compliances relating to roadway and intersection design have been identified during site inspections and investigations. In addition, heavy vehicle interactions at surface mines continues to be a major hazard. Incidents include roll-overs, collisions and near misses.

Consequently, the NSW Resources Regulator has scheduled roadway design and design implementation as a priority area for the second half of 2019. Our inspectors will be attending surface coal operations to assess compliance and where necessary, take enforcement action when breaches are discovered.

Mining operators are required to develop design standards for managing surface road traffic. Standards focus on minimising vehicle incidents.

Recent planned inspections and incident investigations undertaken by the NSW Resources Regulator have highlighted areas of concern including:

- lack of implementation where significant elements of the mine’s own design standard have been found to be not fully implemented
- inconsistent design and construction of berm heights. In some cases, berms were found to be undersized, ineffective or missing
- entirely poor design at intersections resulting in issues, including placement of islands and heights of berms
- little or no vehicle speed enforcement by mines, especially at the crests of ramps or grades, as per design plans, and
- design standard non-compliances relating to roadway width, grade and signage.

In preparation, mining operators are encouraged to review their plans against the areas of concern listed above.

# Large mines and quarries sector

## Large mines and quarries safety profile

In the April - June 2019 quarter, there were 38 active large mines and quarries; 20 surface operations and 18 underground mines. There were 34 'open' large mines and quarries and four 'under care and maintenance'.

### SAFETY INCIDENT NOTIFICATIONS

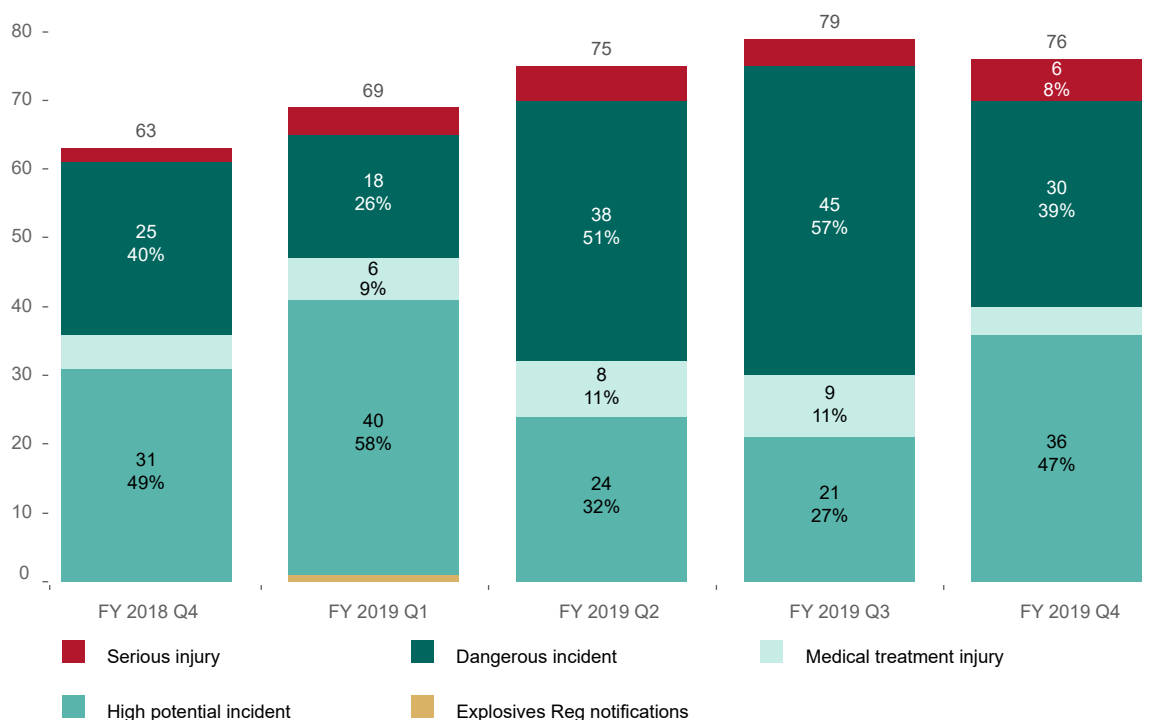
Legislation requires mine operators to notify the NSW Resources Regulator about the occurrence of certain types of safety incidents. (See Appendix 1 for legislative detail)

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

In the current quarter (quarter four of the 2018-19 year), the NSW Resources Regulator received a total of 76 safety incident notifications from the large mines and quarries sector. This represents a 4% decrease to the previous quarter with an increase of 21% when compared to the same period a year before (quarter four of the 2017-18 year).

Most safety incident notifications received in the current quarter (47%) relate to high potential incidents. A further 39% relate to dangerous incidents.

**FIGURE 16.** LARGE MINES AND QUARRIES SECTOR SAFETY INCIDENT NOTIFICATIONS BY INCIDENT TYPE – APRIL 2018 TO JUNE 2019

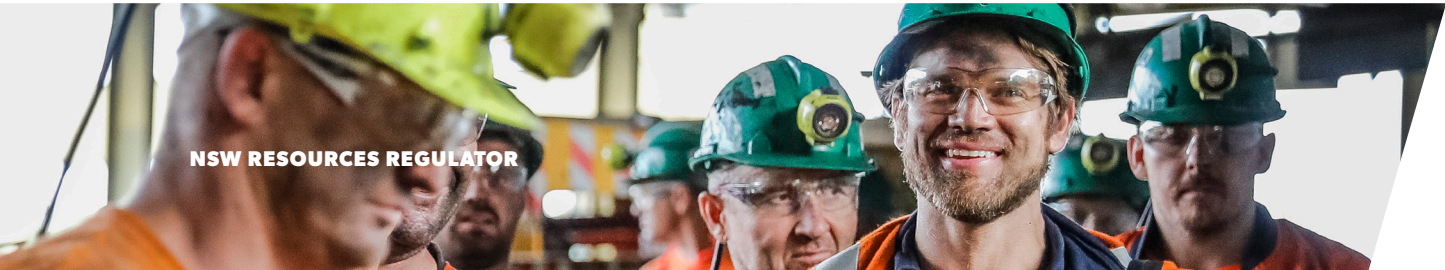
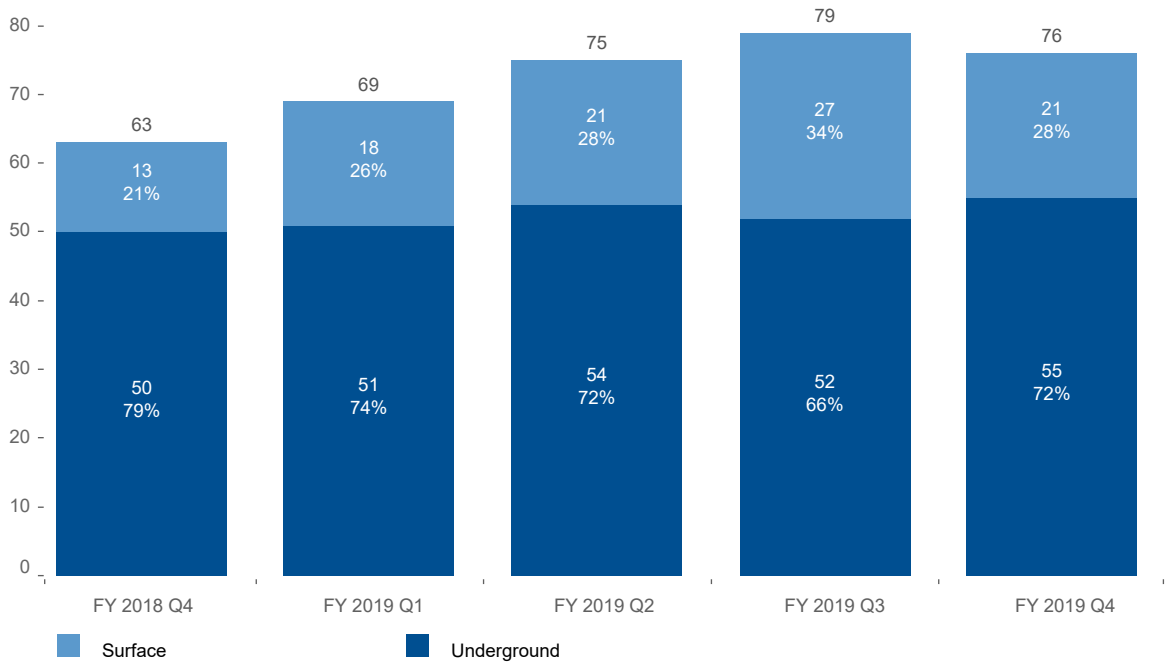




The graph below, shows the proportion of safety incident notifications received from surface and underground large mines and quarries operations for the last five quarters.

In the current quarter, 72% of safety incident notifications from the large mines and quarries sector were received from underground operations. Over the last five quarters, most of the safety incident notifications were by underground operations (varying between 66% to 79% of notifications).

**FIGURE 17.** LARGE MINES AND QUARRIES SECTOR SAFETY INCIDENT NOTIFICATIONS BY OPERATION TYPE – APRIL 2018 TO JUNE 2019



## Large mines and quarries compliance activities

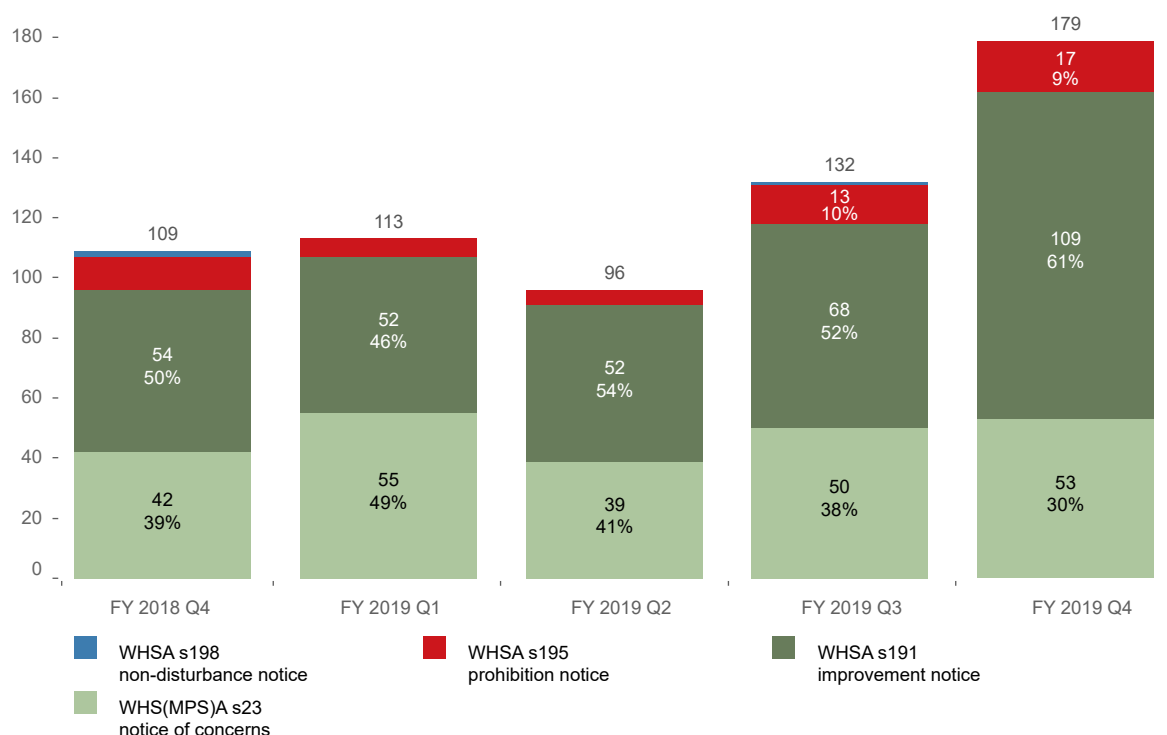
### SAFETY NOTICES ISSUED

The graph below shows the number and types of safety notices issued in the large mines and quarries sector over the five quarters since April 2018. This sector has seen an overall upward trend in safety notices issued by the NSW Resources Regulator over the last five quarters.

In the current quarter (quarter four 2018-19) the NSW Resources Regulator issued a total of 179 safety notices in the large mines and quarries sector. This represents a 36% increase from the previous quarter and is in part related to an increased focus on the sector where proactive compliance programs have focussed on priority areas resulting in increase in the number of proactive assessments carried out.

Nearly two thirds of these (61%) were improvement notices, 30% were notices of concern and 9% (17 of 179) prohibition notices. This equates to the NSW Resources Regulator issuing on average one prohibition notice for every six improvement notices.

**FIGURE 18.** LARGE MINES AND QUARRIES SECTOR SAFETY NOTICES ISSUED – APRIL 2018 TO JUNE 2019



## SAFETY ASSESSMENTS

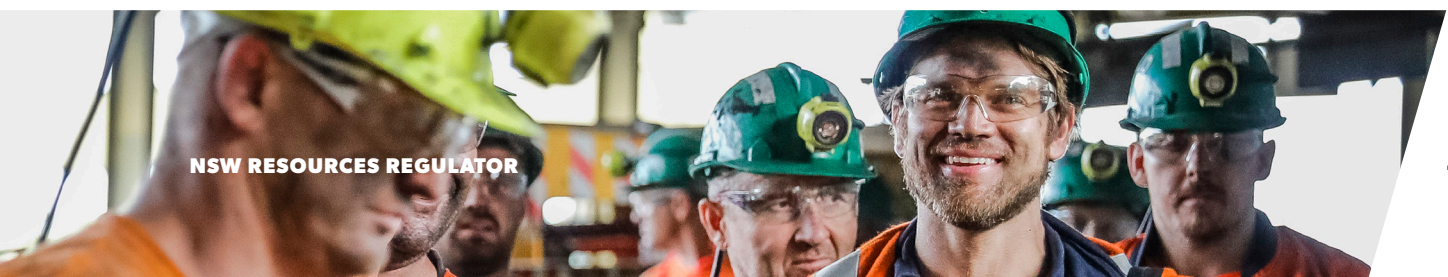
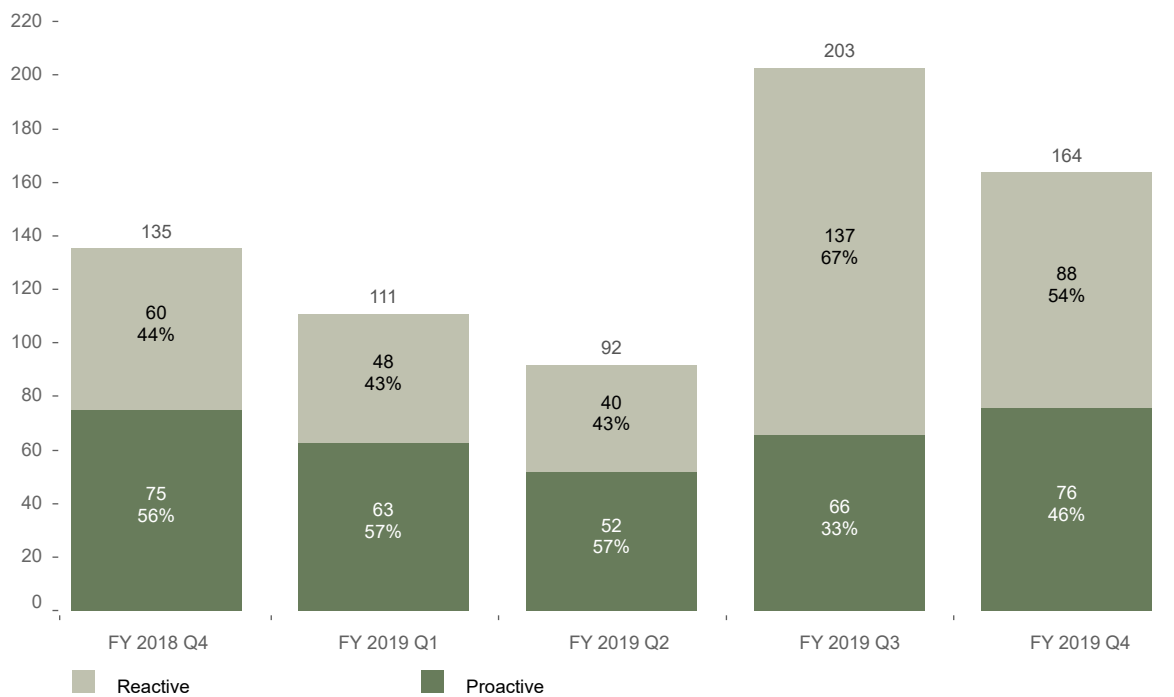
### PROACTIVE AND REACTIVE ASSESSMENTS

The graph below shows that for three of the five quarters since April 2018 the NSW Resources Regulator's effort in the large mines and quarries sector was focussed on proactive programs rather than reactive ones.

On average, approximately 65 proactive assessments (activities not related to incidents and complaints) in this sector were conducted each quarter, representing 46% of all assessments.

In the current quarter, 46% of assessments were proactive in nature. This is, in part, due to the increased focus on targeted proactive compliance programs in the area, the number of notifications and also the results of assessments in the last three months.

**FIGURE 19.** LARGE MINES AND QUARRIES SECTOR ASSESSMENTS BY NATURE – APRIL 2018 TO JUNE 2019

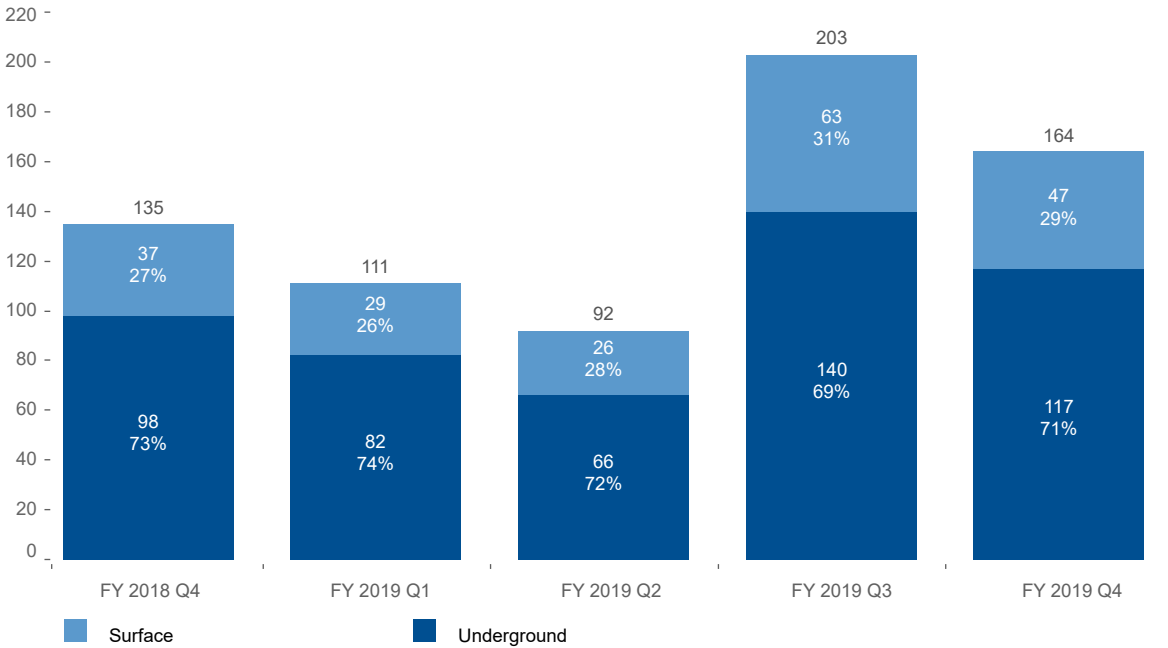


**SAFETY ASSESSMENTS BY OPERATION TYPE**

The graph below shows the number of safety assessments conducted in underground and surface operations in the large mines and quarries sector in the past five quarters since April 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 four 2018-19), 71% of all large mines and quarries assessments were in underground operations.

**FIGURE 20. LARGE MINES AND QUARRIES SECTOR SAFETY ASSESSMENTS BY OPERATION TYPE – APRIL 2018 TO JUNE 2019**



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

**TABLE 11. TARGETED ASSESSMENT PROGRAM CONDUCTED – APRIL 2019 TO JUNE 2019**

Date	Hazard	Mine
21 May 2019	Fatigue	Cadia East Project
12 June 2019	Fatigue	Hera Mine
Total		2

## Spotlight on large mines and quarries sector



### Fatality in large metal mine leads to prosecution proceedings

At 2.40pm on 3 April 2017, a worker operating a mobile rock drill underground, reported feeling unwell and lost consciousness while being transported to the surface. The worker died, despite the efforts of his co-workers and ambulance officers, to resuscitate him.

The 36-year-old, contract worker was operating a jumbo alone, in hot and humid conditions, in a development road, about 900 metres below the surface, when he requested radio assistance. Nearby workers came to collect him and drive him to the surface. He lost consciousness and stopped breathing during his evacuation to the surface.

The risks to health and safety regarding hot and humid working environments are well known. Working in intense heat can raise normal body temperature and lead to serious dehydration, heat stroke and possible death.

Heat stress management plans should make provision for pre-shift and during-shift temperature testing of workplaces and dehydration testing of workers. Workers should be adequately supervised and actively monitored for signs of dehydration and heat-related illnesses. Regular crib and rest breaks should be taken to ensure workers can be adequately rehydrated. Heat stress management plans should also prescribe circumstances for the withdrawal of workers from hot and humid conditions, which should be supported by the regular testing of workplace conditions.

On 1 April 2019, the Resources Regulator commenced prosecution proceedings in the District Court against Peak Gold Mines Pty Ltd over a work-place death at a mine near Cobar in April 2017. The Regulator will allege the contract worker died at the Peak Gold Mine, after working in hot and inadequately ventilated conditions about 900 metres underground at the mine's workings.

The Resources Regulator will allege Peak Gold Mines contravened section 32 of the *Work Health and Safety Act 2011*, by failing to comply with a health and safety duty imposed by section 19 of that Act. The alleged Category 2 offence has a maximum penalty of \$1,500,000.

The incident information release can be found on the NSW Resources Regulator's [website](#).

# Small mines and quarries

## Small mines and quarries safety profile

In the current quarter, there were 2,648 active small mines and quarries in NSW. Most of these small mines are surface operations (2,610 from 2,648, or approximately 99%).

Of the surface operations, 1,770 are classed as 'intermittent'; 710 are classed as 'open'; 97 are classed as 'under care and maintenance', two are classed as open tourist mines and 31 are 'planned'.

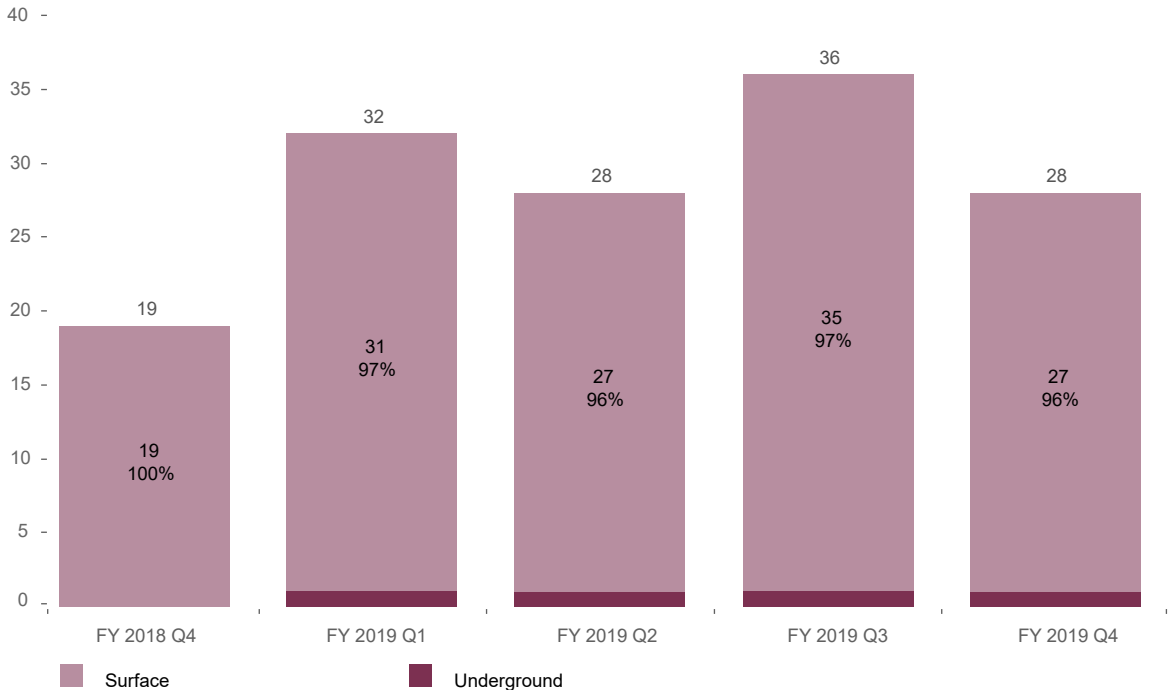
### SAFETY INCIDENT NOTIFICATIONS

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 safety incident notifications received over the past five quarters from the small mines and quarries sector. Note, these are small numbers of notifications so a trend cannot be easily ascertained.

In the current quarter (quarter four of the 2018-19 year), the NSW Resources Regulator received a total of 28 safety incident notifications from the small mines and quarries sector. This represents an increase of 47% when compared to the same period a year before (quarter four of the 2017-18 year). This may be, in part, due to better understanding of (and compliance with) their obligations to report incidents.

**FIGURE 21.** SMALL MINES SECTOR SAFETY INCIDENT NOTIFICATIONS BY OPERATION – APRIL 2018 TO JUNE 2019



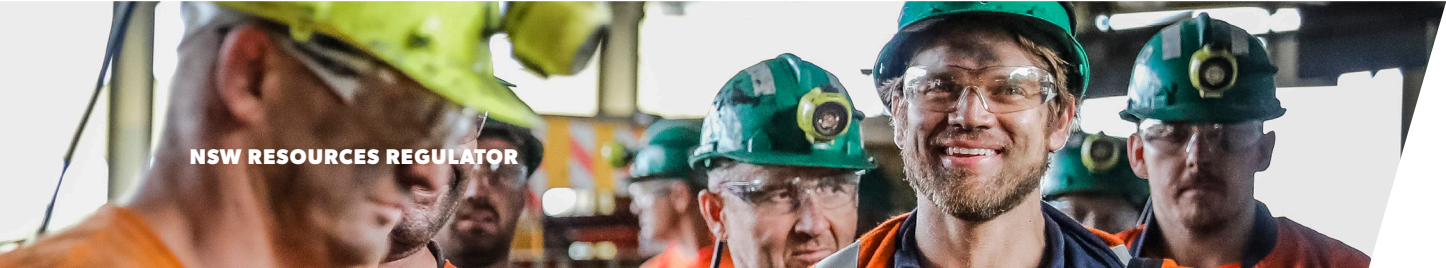
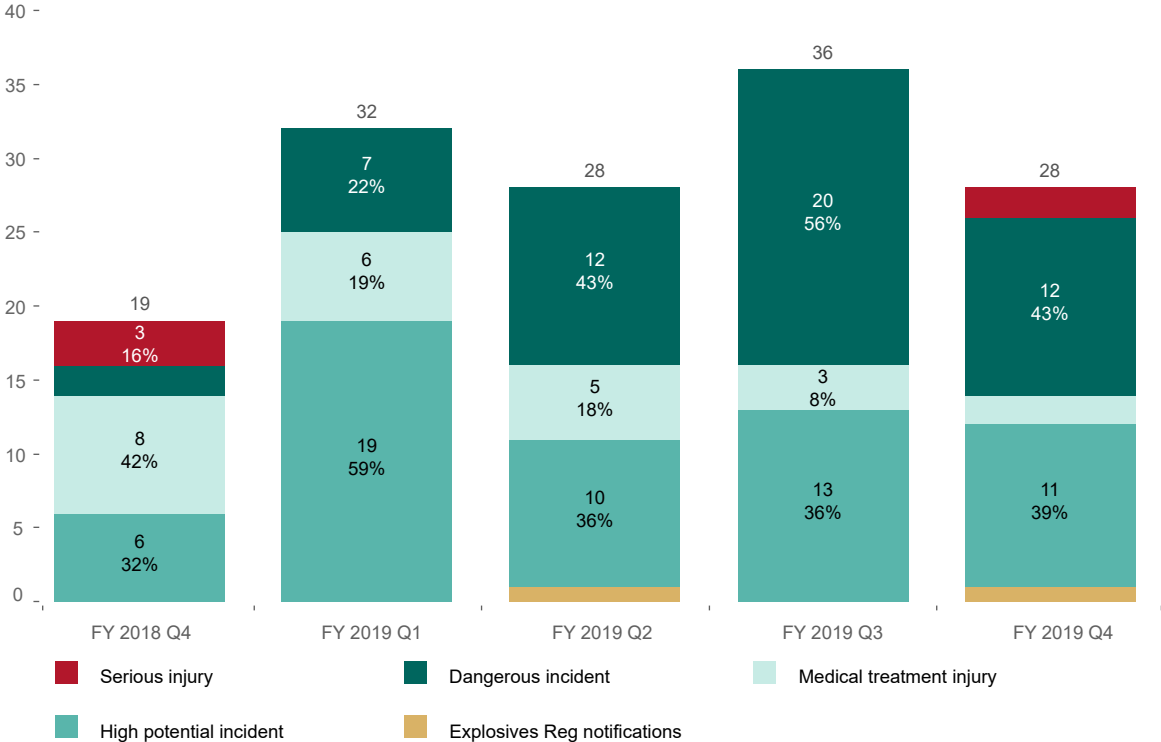


The graph below, shows incidents notified to the NSW Resources Regulator by operation type for the small mines and quarries sector for the last five quarters.

There are mixed results for the sector. Some 43% of the safety incident notifications received in the current quarter relate to dangerous incidents (down 40% compared to the previous quarter). A further 39% relate to high potential incidents (down 15% compared to the previous quarter).

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

**FIGURE 22.** SMALL MINES SECTOR SAFETY INCIDENT NOTIFICATIONS BY INCIDENT TYPE – APRIL 2018 TO JUNE 2019



## Small mines and quarries compliance activities

### SAFETY NOTICES ISSUED

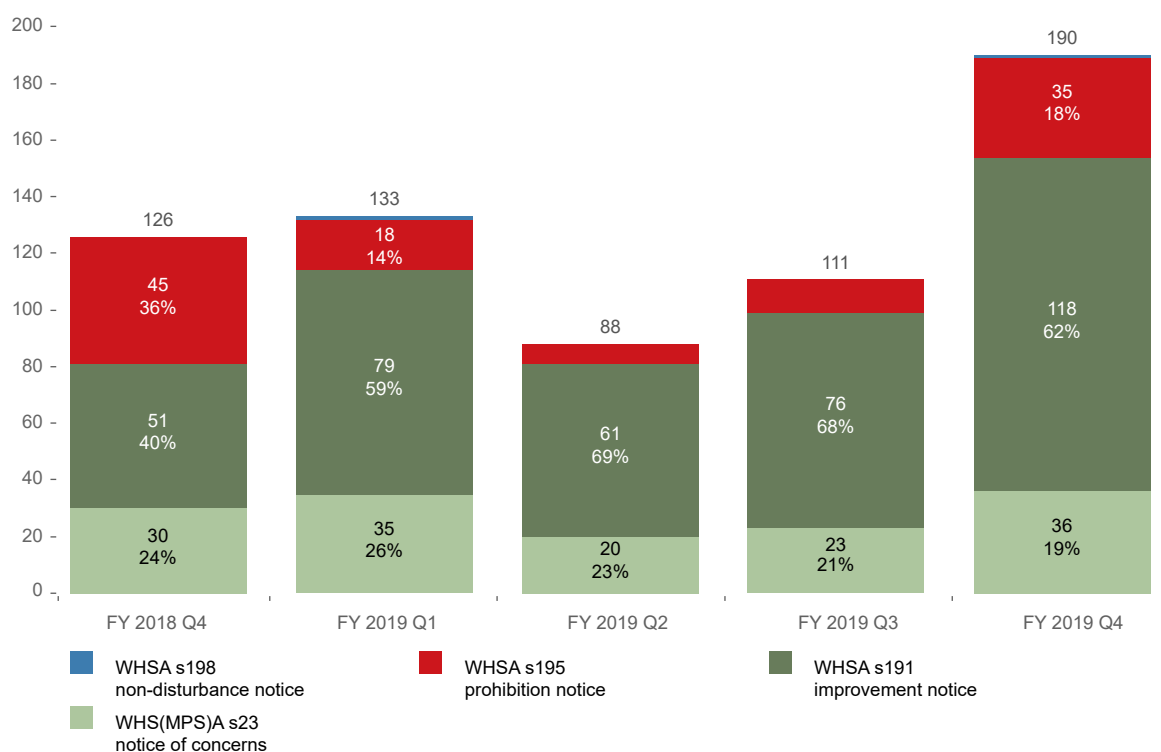
The graph below, shows the number and types of notices by the NSW Resources Regulator in the five quarters since April 2018 in the small mines and quarries sector.

In the current quarter (quarter four 2018-19), the NSW Resources Regulator issued 190 safety notices, a 51% increase when compared to the same quarter last year and a 71% rise when compared to the previous quarter.

The number of notices issued over the five quarters does vary but there has been an apparent upward trend in notices over the last two quarters (since the beginning of quarter three 2018-2019). The variability seen is, in part, a reflection of the nature of inspection activity. In addition, the NSW Resources Regulator is currently undertaking proactive compliance programs in the sector focussed on priority areas which would account for the recent increase. The high visibility operation conducted recently is just one example of this.

In the current quarter, of the 190 notices issued, 118 (62%) were improvement notices, 19% (36 of 190) were matters of concern, 1% (one of 190) was a non-disturbance notice and 18% (35 of 190) were prohibition notices. This equates to the NSW Resources Regulator issuing, on average, one prohibition notice, to approximately every three improvement notices.

**FIGURE 23. SMALL MINES SECTOR SAFETY NOTICES ISSUED – APRIL 2018 TO JUNE 2019**



## SAFETY ASSESSMENTS

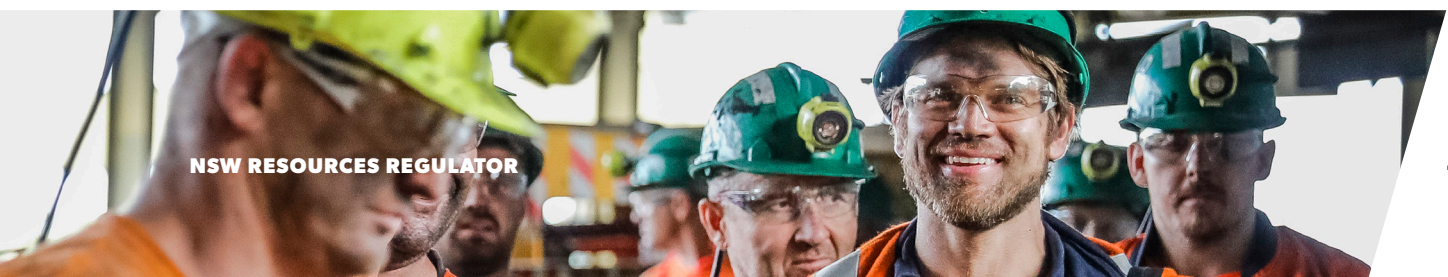
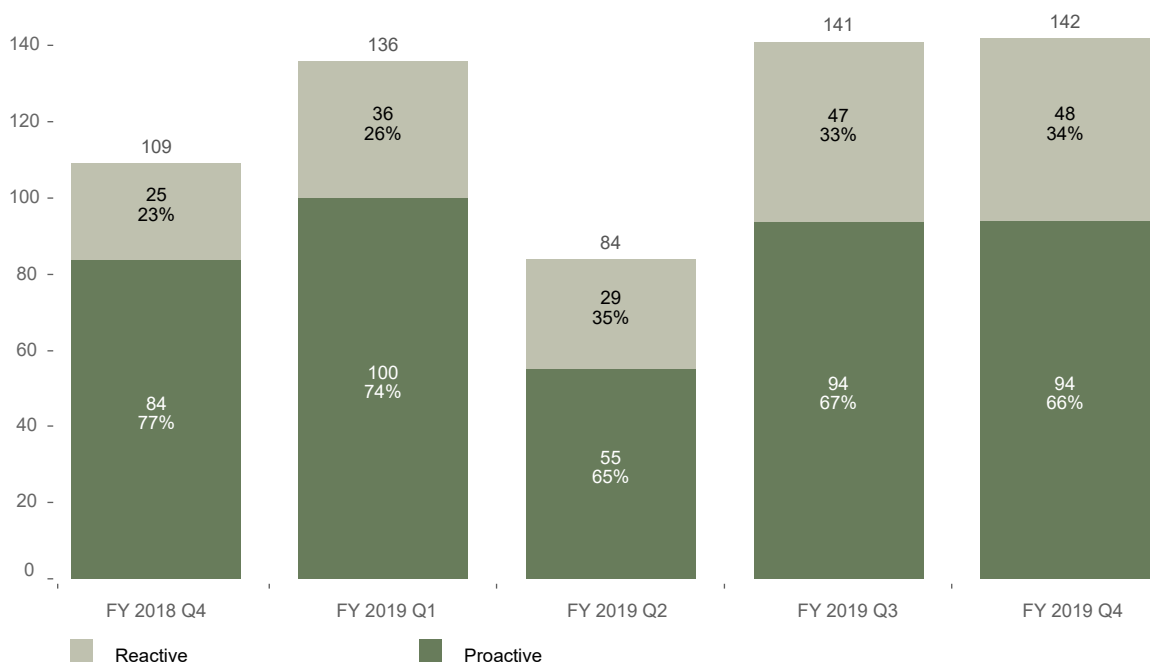
### PROACTIVE AND REACTIVE ASSESSMENTS

The graph below shows that for each of the quarters since April 2018, the NSW Resources Regulator's effort was focused on proactive programs (activities not related to incidents and complaints) in the small mines and quarries sector.

In this quarter, 66% of assessments were proactive in nature.

On average, 85 proactive assessments in this sector were conducted each quarter, representing 69% of all assessments.

**FIGURE 24.** SMALL MINES SECTOR ASSESSMENTS BY NATURE – APRIL 2018 TO JUNE 2019



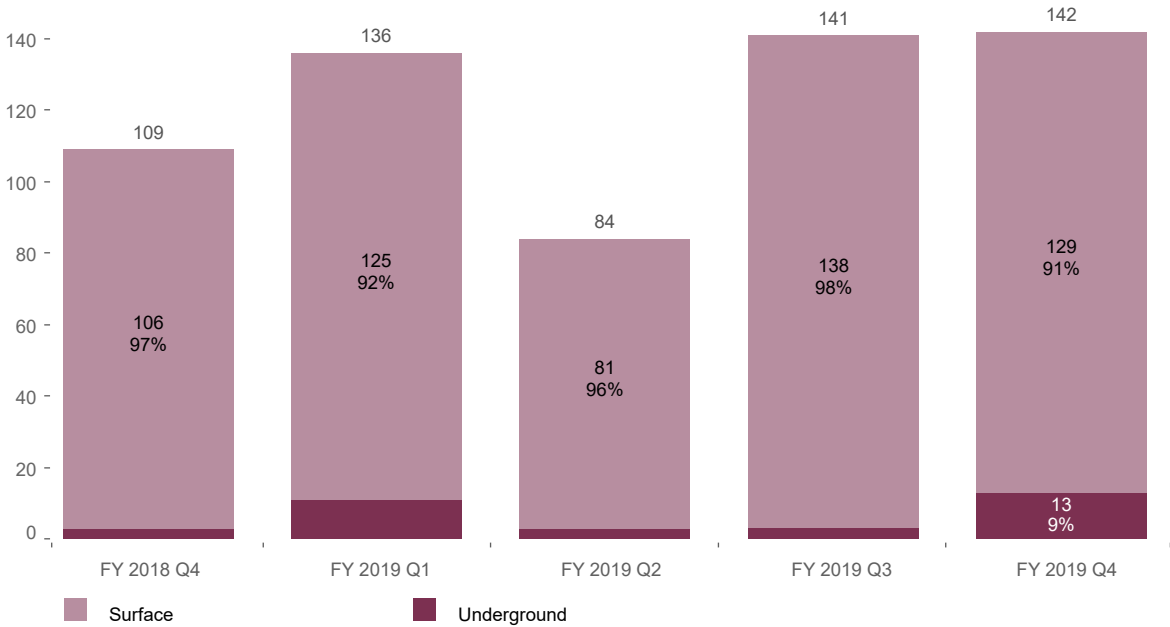
**SAFETY ASSESSMENTS BY OPERATION TYPE**

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 April 2018.

This shows that most small mines and quarries assessments were in surface operations over the past five quarters. This is not unexpected given that almost all small mines and quarries are surface operations.

In the current quarter (quarter four 2018-19), 91% of all small mines and quarries assessments were in surface operations.

**FIGURE 25. SMALL MINES SAFETY ASSESSMENTS BY OPERATION – APRIL 2018 TO JUNE 2019**



## Spotlight on small mines and quarries sector



### Compliance program to focus on fixed plant integrity

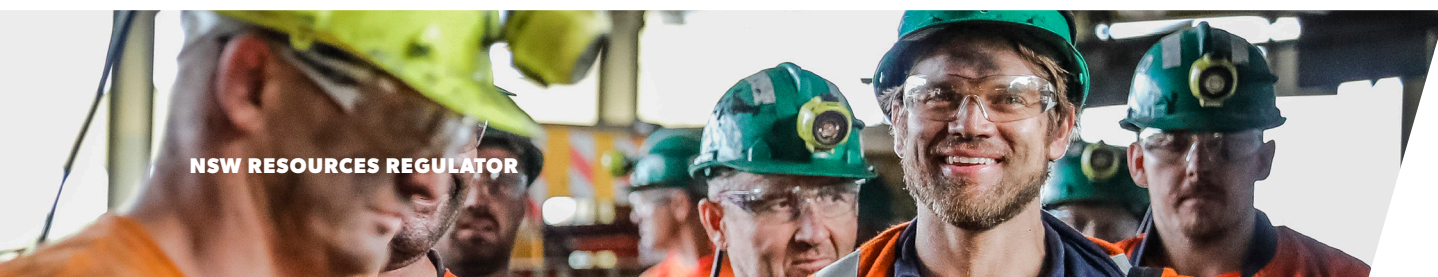
#### **STRUCTURAL INTEGRITY OF FIXED PLANT – AN EMERGING ISSUE IN SMALL MINES**

Recent safety inspections have revealed several small mines (non-coal sector) have been operating with damaged and heavily corroded, fixed plant infrastructure. In response, the NSW Resources Regulator commenced an inspection program focused on assessing structural integrity of fixed plant and related maintenance programs.

Fixed plant structures at non-coal mines are constantly exposed to environmental and operational, wear and tear. The resulting corrosion, as well as the damage by mobile plant interactions, poses ongoing maintenance challenges to mines. If not effectively managed, this impacts on the structural integrity of the plant and puts workers at risk. Risks to workers from weathered, damaged and poorly maintained plant of this type are preventable.

The NSW Resources Regulator's compliance program is focusing on inspecting those mines most at risk of structural damage, wear/fatigue and corrosion. Each inspection focuses on maintenance and integrity of fixed plant and associated risks. Inspectors also assess the mine's capacity and effectiveness in managing structural integrity issues.

Upon completion of the program, the NSW Resources Regulator will share its findings in a published report on the Department's website.



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# Opal mines

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## Opal mines safety profile

As at the end of June (quarter four 2018-19), there were 3,564 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 in the sector challenging.

The NSW Resources Regulator's small mines team continues to engage with operators and the Lightning Ridge Miner's Association to improve safety performance and reporting in opal mines.

### 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.)

In the current quarter, there was one incident 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 12.** NOTIFIED SAFETY INCIDENTS – APRIL 2018 TO JUNE 2019

	Q4 2017-18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Q4 2018-19	Total
Opal sector – notified safety incidents	2	2	2	0	1	7
All sectors – total notified safety incidents	506	480	539	513	495	2,533



## Opal mines compliance activities

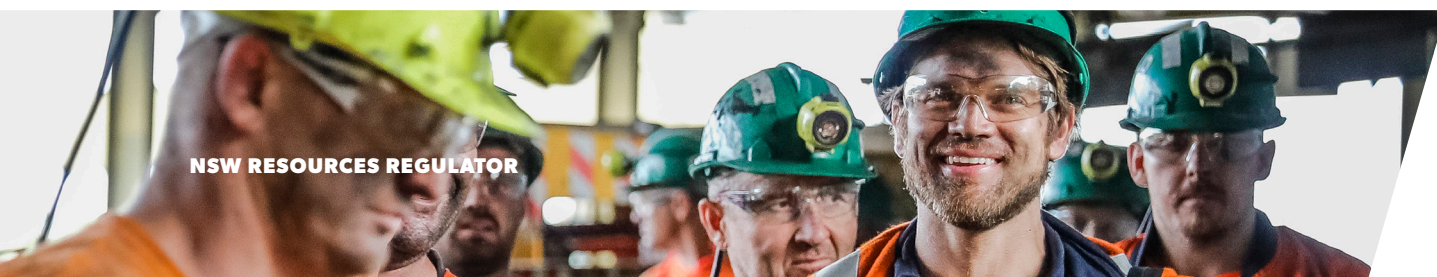
### SAFETY ASSESSMENTS AND NOTICES ISSUED

The table below, shows the number of notices issued and assessments conducted by the NSW Resources Regulator over the last five quarters. In quarter four 2018-19, the NSW Resources Regulator issued 47 safety notices (representing approximately 8% of all industry safety notices issued) and conducted 71 safety assessments (representing approximately 9% all industry safety assessments).

As noted earlier, the NSW Resources Regulator is currently undertaking proactive compliance programs focussed on priority areas in the sector which would account for the recent increase. The NSW Resources Regulator's small mine team engagement with operators and the Lightning Ridge miner's association is one example of this.

**TABLE 13.** OPAL SAFETY NOTICES ISSUED AND ASSESSMENTS – APRIL 2018 TO JUNE 2019

	Q4 2017-18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Q4 2018-19	Total
Safety notices issued	4	2	7	17	47	77
Safety assessments conducted	30	14	16	47	71	178



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# Petroleum and geothermal

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## Petroleum and geothermal sector safety profile

As at the end of June (quarter four 2018-19), there were 261 active (open or intermittent) and six planned, petroleum and geothermal sites in NSW.

### 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 that no safety incident notifications have been received over the past five quarters from the petroleum and geothermal sector.

**TABLE 14.** PETROLEUM AND GEOTHERMAL SECTOR NOTIFIED SAFETY INCIDENTS – APRIL 2018 TO JUNE 2019

	Q4 2017-18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Q4 2018-19	Total
Number of incidents notified	0	0	0	0	0	0
All sectors – total notified incidents	506	480	539	513	495	2,533

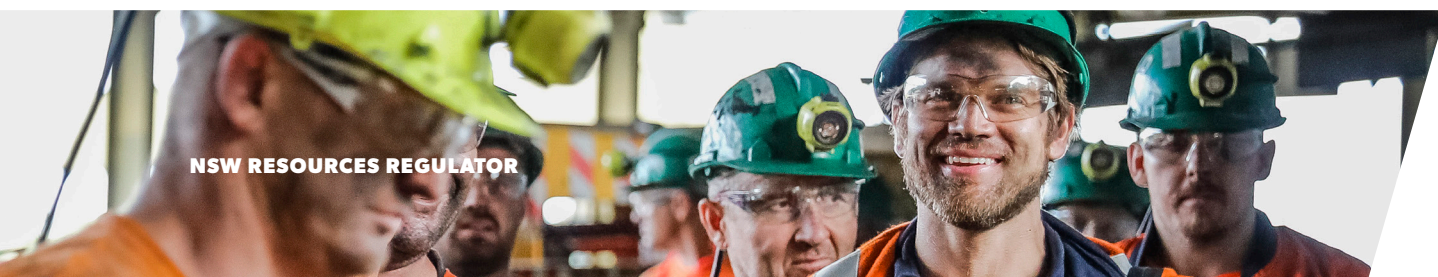
## Petroleum and geothermal sector compliance activities

The table below shows the number of safety assessments conducted and the number of notices issued by the NSW Resources Regulator over the 15-month reporting period since April 2018 for the petroleum and geothermal sector.

In quarter four 2018-19, the NSW Resources Regulator conducted 39 safety assessments with no notices issued.

**TABLE 15.** PETROLEUM AND GEOTHERMAL SECTOR ASSESSMENTS AND NOTICES – APRIL 2018 TO JUNE 2019

	Q4 2017-18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Q4 2018-19	Total
Safety notices issued	9	0	0	0	0	9
Safety assessments conducted	50	32	28	33	39	182



# Exploration sector

As at the end of June (quarter four 2018-19), there were 728 active (which includes open, intermittent, and 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 four 2018-19, there were no safety incident notifications to the NSW Resources Regulator in the exploration sector.

**TABLE 16.** EXPLORATION – NUMBER OF NOTIFIED INCIDENTS – APRIL 2018 TO JUNE 2019

	Q4 2017-18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Q4 2018-19	Total
Number of notified incidents	2	3	2	1	0	6
All sector – total notified incidents	506	480	539	513	495	2,533

## EXPLORATION SAFETY ASSESSMENTS AND NOTICES

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

**TABLE 17.** EXPLORATION SAFETY NOTICES ISSUED – APRIL 2018 TO JUNE 2019

	Q4 2017-18	Q1 2018-19	Q2 2018-19	Q3 2018-19	Q4 2018-19	Total
Safety notices issued	2	3	2	0	0	7
All sector – total notified incidents	2	5	1	0	0	8

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# Appendices

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## 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.

