NSW GOVERNMENT

NSW Resources Regulator

Quarterly safety report

OCTOBER TO DECEMBER 2018

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' as well as the number of mining operations that have submitted reports to the regulator in the form of 'hours worked'. 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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NSW GOVERNMENT

Contents

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 two in the financial year 2018-19. This report now covers a 15 month period from October 2017 to December 2018 (previous reports only covered 12 months) for selected measures.

In summary:

- Between October and December 2018, there was one mining related fatal injury in NSW. Another incident was reported where the worker was fatally injured during travel.
- In the current quarter, the NSW Resources Regulator received a total of 537 notifications. This represents an increase of 16% when compared to the same period a year before. The majority of notifications received in the current quarter (69%) relate to high potential incidents, and the vast majority of notifications received (80%) were from coal mines.
- From October through December 2018, the NSW Resources Regulator commenced two safety related prosecutions and five safety incidents of note.
- This current quarter, the NSW Resources Regulator conducted 12 targeted assessments under its proactive assessment program (a risk-based approach for assessing principal mining hazard management practices and procedures in NSW mining operations).
- The NSW Resources Regulator issued a total of 328 safety notices between October and December 2018. More than half (59%) of safety notices were improvement notices, 33% were written notice of matters and 8% (26 of 328) were prohibition notices. This equates to an average of one prohibition notice issued for approximately every seven improvement notices.

- 40% of safety notices this quarter were issued to coal mines, 30% of safety notices issued in large mines and 27% of safety notices issued in small mines.
- For each quarter, over the past five quarters, regulatory effort across all sectors focussed predominantly on proactive programs with the NSW Resources Regulator conducting, on average, 640 proactive assessments (activities not related to incidents and complaints) each quarter. This represents on average approximately 68% of all assessments. In fact, 71% of all assessments this quarter were proactive in nature.
- New design orders have been published this quarter for selected plant in the NSW Government Gazette (the design of certain types of plant used in underground coal mines are required to be design registered under the Work Health and Safety Regulation 2017).
- In October to December 2018, the NSW Resources Regulator facilitated numerous engagement activities centred around building awareness of mine emergency planning requirements, including the NSW Mine Sub Plan, which outlines specific arrangements for the management of emergencies and rescues at NSW Mines.

National and international significant events

Australia

FATAL INJURIES

NEW SOUTH WALES

There was one fatal injury in the NSW mining industry between October and December 2018. The death occurred on 3 November 2018 when a contract worker was fatally injured when a large earthmoving tyre fell from a tyre handler at the heavy vehicle wash bay of an open cut coal mine. The incident is currently under investigation by the NSW Resources Regulator. See Investigation information release.

OTHER STATES

Queensland reported a fatal injury that occurred on 15 November 2018. A worker was fatally injured at a quarry when he became entangled in the rotating tail drum of a conveyor belt. A co-worker activated the emergency stop device fitted to the conveyor. See Mines safety alert 359.

DANGEROUS INCIDENTS

TABLE 1. NSW RESOURCES REGULATOR SAFETY ALERTS AND BULLETINS

Date published	Reference	Title
25 Oct 18	SB18-16	Detecting gas in confined spaces
6 Nov 18	SA18-11	Controlling legionella bacteria in mining operations
6 Nov 18	SB18-17	Welding fume safety
6 Nov 18	SB18-18	Drill rig safety
12 Nov 18	SA18-12	Worker falls from conveyor gantry
21 Nov 18	SB18-19	Isolation issues identified at coal mines
19 Dec 18	SA18-13	Dangerous incident involving excavator on edge of highwall
20 Dec 18	SA18-14	Dangerous incident at Lightning Ridge fall down shaft
21 Dec 18	SA18-15	Walkway collapse puts workers at risk
21 Dec 18	SA18-16	Tyre falls from tyre handler

OTHER STATES

QUEENSLAND

In this quarter, the following five dangerous incidents of note occurred in Queensland:

- Resources Safety and Health Newsflash on the 24 October 2018 reported an incident at an open cut coal mine where a worker was unable to activate and remove a fire suppression safety pin during a fire event on a rear dump truck. This was due to an anti-tamper tag being fitted around the activation pin. See Newsflash.
- On 24 October 2018, a Resources Safety and Health Newsflash reported that a maintenance personnel at a mine discovered during an inspection that the security/safety pin legs were crossed over and not allowing the pin to be removed in the event of being activated. See Newsflash.
- On 27 November 2018, a warning was circulated that during lightning storms, heavy, rubber-tyred vehicles should not be recommended as a place of safety. It noted that several incidents have occurred on Australian mine sites where lightning has struck rubber-tyred vehicles causing tyres to explode, demonstrating the enormous potential for significant harm when this occurs. See Mines Safety Bulletin 176.
- An incident was reported on the 4 December 2018 where an underground mine heading was being progressively de-watered to enable re-entry to old workings and to establish a ventilation circuit. A pump fitter entered the unventilated heading in a light vehicle to check a sump pump when the vehicle's engine stopped. While the fitter was investigating he experienced "difficulty breathing and identified his heart was beating rapidly". He called emergency over the radio, donned his self-rescuer and left the area on foot. The pump fitter donning his oxygen-generating self-rescuer prevented this incident from escalating. See Mines safety alert 360.
- On 15 November 2018, an incident was reported where a shotfirer was using deflagrating (low strength) explosive cartridges to blast oversize material at an open cut metalliferous mine. While cycling through the test procedure the electronic test unit delivered a test/energising current that was greater than the fire current for the deflagrating explosive cartridge. The cartridge initiated in the blast hole less than a metre from the shotfirer's head. The shotfirer was standing offset to the line of fire and was uninjured by the blast. See Explosives Alert 99.

WESTERN AUSTRALIA

In this quarter in Western Australia, the following four dangerous incidents of note occurred:

- On 3 October 2018, a report outlined an earlier incident where electrical installation was de-energised in preparation for the disconnection of temporary power cables and reconnection of permanent power cables at a facility's electrical distribution boards. During the works, an electrician received an electric shock when he inadvertently created a 'floating neutral' situation. Work was suspended, and the electrician was taken to hospital for a precautionary electro-cardiograph (ECG) before being cleared to return to work. See Significant Incident Report 02/2018.

- An earlier incident was reported on 12 November 2018 where a 600,000 litre raw water tank failed. It was a rubber-lined steel construction. At the time of failure, the tank was near full capacity. The outrush of water affected an operational area of 24,000m^2, displacing pumping infrastructure, ladders and associated debris. There were no personnel in the vicinity at the time of failure. See Significant Incident Report 269.
- An incident was reported on 15 November 2018 where an operator and a surveyor were working 27 metres above the ground in a mobile elevating work platform (EWP). When the operator moved the EWP basket upward, his head became trapped between the stacker frame and the secondary guarding sensor bar in the basket. The alarm at the EWP base alerted the spotter, who then proceeded to lower the basket. The operator received injuries that had the potential to be serious. See Significant Incident Report 270.
- On 15 November 2018 an incident was reported where a worker was exposed to potentially serious injuries when a handrail latch failed, causing a handrail gate to swing open. See Significant Incident Report 271.

New Zealand

FATAL INJURIES

On 26 November 2018, a New Zealand worker was performing lighting maintenance work, 5.89m off the ground, when the elevated work platform he was working off was struck by a gantry crane. The contact toppled the scissor lift causing the worker to fall. The worker died at the scene from injuries sustained during the fall. See Safety Alert.

DANGEROUS INCIDENTS

In New Zealand in this quarter, the following seven dangerous incidents of note occurred:

- On 5 October 2018, a mine light vehicle was being serviced over a pit. The handbrake was not applied, and wheel chocks were not used. As a wheel was turned to access a bolt, the light vehicle moved forward into the pit. A worker who was sitting in the ute got his foot caught between the door and the edge of the pit. He sustained bruising to his foot. See Safety Alert.
- A sub-contractor was unloading pallets of sand and cement on 18 October 2018 when the truck became unstable and started to roll/tip to the right – landing against stillages of scaffold components stored adjacent to truck. See Safety Alert.
- An incident was reported on 29 October 2018. During the dual lift of a 19 tonne pre-cast unit, one of the eight lifting points has failed resulting in the precast unit falling to the ground. The closest people were approximately five to six metres away while the lift was taking place. See Flash Report.
- In November 2018, a technical bulletin was issued to highlight the importance of inspection and maintenance to reduce fire risks in all plant and equipment in extractive operations. See Technical Bulletin.

- An incident was reported on 9 November 2018 where during a significant wind event, the roof of a material storage bin was blown off. It travelled approximately 60 metres over another shed, hitting power lines and landing on the opposite side of the State Highway. No-one was injured. See Safety Alert.
- An incident was reported on 7 December 2018. Workers were cleaning rocks from a jaw crusher and a steel plate was used as a working platform at the bottom of the jaw to ensure safe footing for workers. As workers were placing rock onto the screen (which was spring-loaded), it pushed down against the steel plate. When the steel plate was removed it tilted under the weight from the screen and the nearby supervisor reacted by trying to stabilise it. The sudden movement resulted in the supervisor receiving a torn bicep tendon injury. See Safety Alert.
- On 14 December 2018, a Safety Alert was issued in response to New Zealand recording several accidental disengagements of quick hitch couplers which gave recommendations about how to use quick hitches safely. See Safety Alert.

International

FATAL INJURIES

UNITED STATES OF AMERICA

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

- A 40-year-old miner was fatally injured on 2 October 2018 when struck by stemming sand ejected from a borehole. While conducting a blasting operation in a new vertical raise, a contract foreman was attempting to clean out a previously blasted vertical borehole with high-pressure air. A sudden release of energy forced stemming sand from the bottom of the borehole, striking the miner. See MNM Fatal Injury Alert.
- On 11 October 2018, a 26-year-old miner was fatally injured as a result of falling from on top of a previously cut block of granite. The victim was in the process of separating the cut block of granite from the highwall when the cut block suddenly slid out. The movement caused the miner, who was not wearing fall protection, to lose his balance and fall between the rock and the highwall causing fatal injuries. See MNM Fatal Injury Alert.
- A 33-year-old auger helper with three days of total surface mining experience received fatal injuries on 17 October 2018 during auger mining activities. The victim was attempting to move a section of auger steel by using the onboard crane when he was struck in the chest. See MNM Fatal Injury Alert.
- On 22 October 2018, a safety flash advised of a recent fatal injury where a foreman lost his footing while working from a light-rail concrete girder, falling approximately 33 feet to the ground. The worker was wearing a DBI SALA Nano-Lok fall protection system with a web lanyard. The web lanyard was severed by the edge of the concrete pier cap. See Safety flash.

- A 44-year-old shift supervisor was killed on 3 November 2018 when a loaded Caterpillar 785B haul truck ran over her pickup truck at the crusher site. See MNM Fatal Injury Alert.
- On 11 November 2018, a 45-year-old Underground Technician was killed when the Load-Haul-Dump (LHD) machine he had been operating underground ran over him. See MNM Fatal Injury Alert.

In this quarter, the United States Department of Labour Mine Safety and Health Administration released a final report into the following five earlier fatal injuries of note:

- On 31 July 2018, a 62-year-old foreman was fatally injured while dismantling a portable crusher. The front-end loader was placing a 20-foot long steel tube onto the screen feed conveyor. The front-end loader operator lowered the bucket and crushed the victim against the conveyor structure. The final report found the incident occurred because management did not have policies, procedures, and controls in place to ensure the use of tag lines while moving suspended loads and to ensure persons did not work under the raised buckets of loaders. Final report released 2 October 2018.
- On 13 June 2018, a 65-year old truck driver was fatally injured when his truck travelled over a berm and into an impoundment of water. The final report concluded that investigators were unable to determine why the driver was unable to maintain control of the haul truck. Final report released 28 November 2018.
- On 11 September 2018, a mobile bridge conveyor (MBC) operator was fatally injured during the mining process. The continuous mining machine (CMM) and attached MBCs had been backed out of a completed cut. While the CMM was being repositioned, it moved the attached MBCs and crushed the victim between his MBC and the coal rib. The final report concluded that the incident occurred because the administrative and engineering controls in place at the mine were not adequate to protect the victim from crushing injuries. Final report released 18 December 2018.
- On 22 August 2018, a 29-year-old miner was fatally injured while cleaning a snub pulley. The victim was working from an aerial lift located under the belt conveyor when he became entangled in the conveyor pulley. The final report concluded that the incident occurred because the conveyor was not de-energized, locked out or blocked against hazardous motion before the victim attempted to clean the bend pulley. Mine management did not provide appropriate task training to the victim on the hazards associated with the work being performed. Final report released 19 December 2018.
- On 23 June 2018, a 46-year-old electrician was fatally injured while trying to stop runaway railcars. The miner ran to the front of a set of moving railcars and jumped on in order to set the hand brake. The miner then attempted to jump clear and was fatally injured when he was run over by the moving railcars. The final report conclude that the incident occurred because the mine operator did not ensure that the manual handbrakes or air brakes were set on the two railcars before uncoupling and moving the train; and did not provide new task training to the victim for performing this type of work. Final report released 19 December 2018.

DANGEROUS INCIDENTS

UNITED KINGDOM

A quarry operator was fined on 5 October 2018 after an employee had his hand and arm caught in a conveyor belt. Lochmaddy Sherriff Court heard how, on 2 November 2016, employees of MacAulay Askernish Limited were undertaking maintenance work on the conveyor belt of a screener unit. One of the workers was leaning through the opening in the conveyor frame when his hand was pulled into the nip point between the drive drum and conveyor belt. His arm quickly became entangled in the mechanism, causing severe injury, permanent disfigurement and impairment.

An investigation by the Health and Safety Executive (HSE) found the guarding of the screener unit was not adequate. The investigation also found the company failed to have in place a suitable procedure for the isolation of the screener unit and to ensure the unit was maintained in good repair as other guard panels were not in place.

Industry safety profile

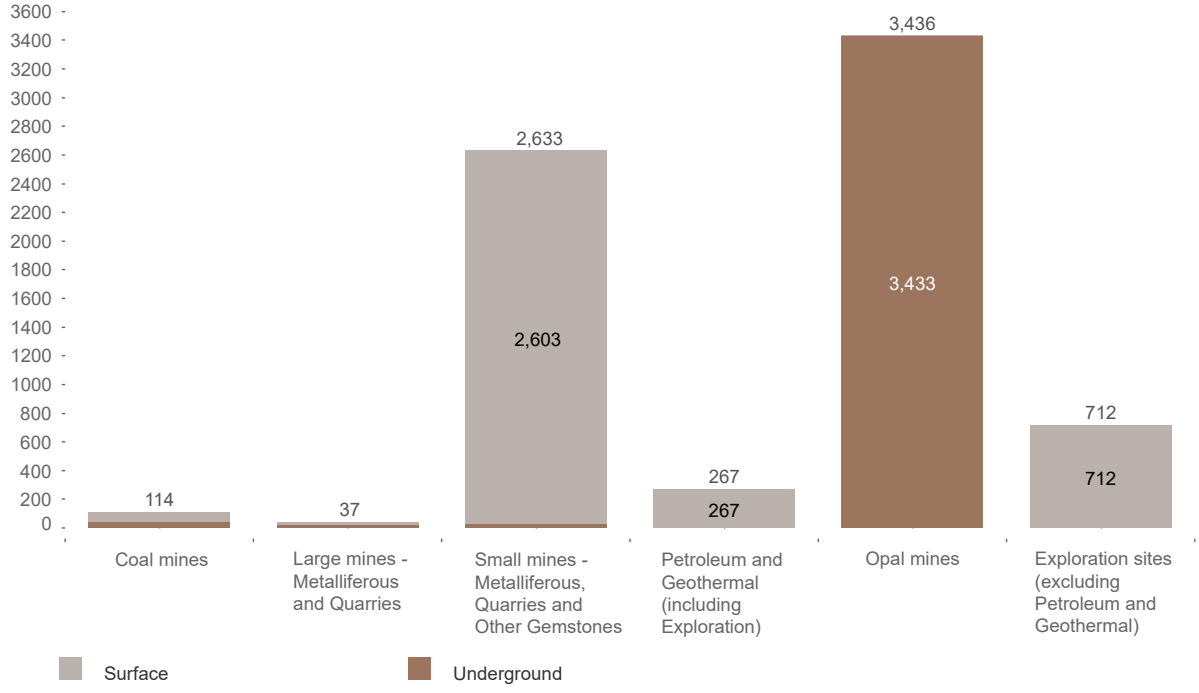
This industry profile is composed of a sector breakdown of the number of active mines and information on hours worked and lost time injuries submitted on quarterly report forms for the past 12 months.

Snapshot of mines by sector in NSW

There were 7,199 active mines in NSW this quarter. Figure 1 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 represents approximately 2% of the total number of mines. The small mines sector, which comprises metalliferous mines, quarries and other gemstones, represents around 37%. Almost half (48%) of all active mines are opal mines.

FIGURE 1. NUMBER OF ACTIVE MINES BY SECTOR



Safety incident notifications

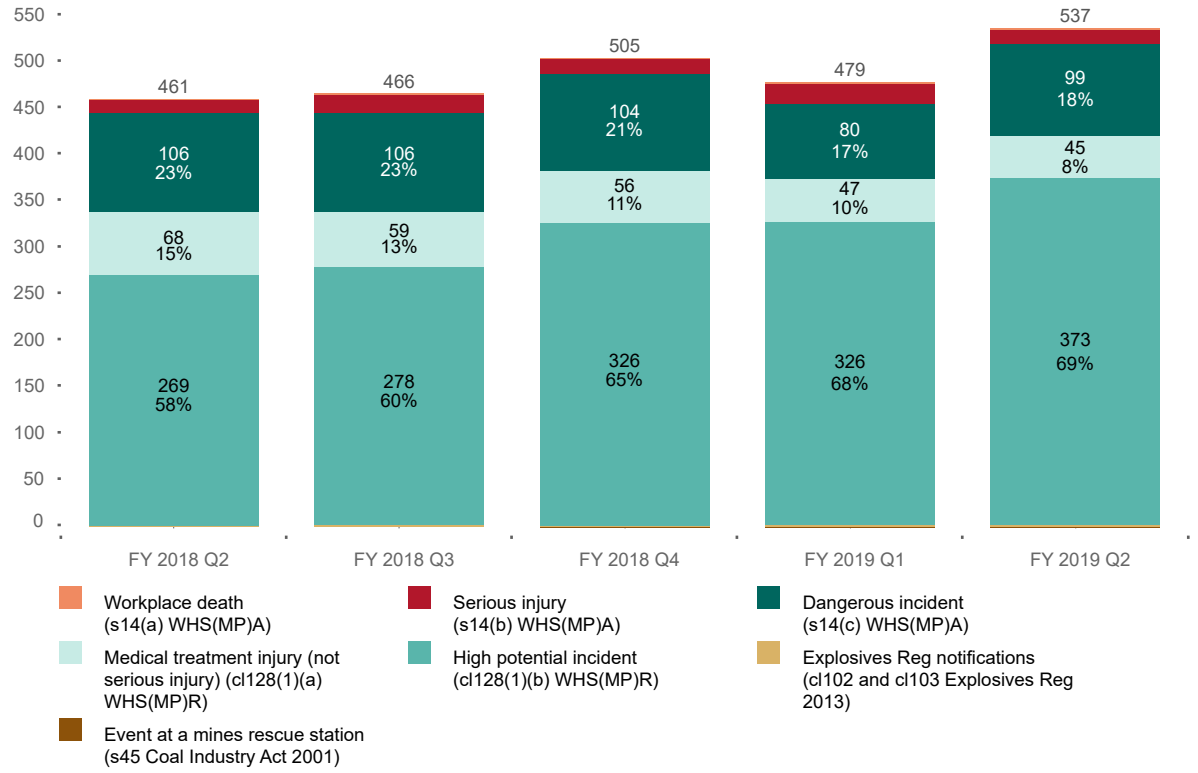
Under the *Work Health and Safety (Mine and Petroleum Sites) Act 2013*, the Work Health and Safety (Mines and Petroleum sites) Regulation 2014, the *Coal Industry Act 2001* and the Explosives Regulation 2013, mine operators are required to notify the NSW Resources Regulator about the occurrence of certain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

Figure 2 below shows the number of safety incident notifications received over the past five quarters. This shows a rising trend over time.

In the current October, November, and December 2018 quarter (quarter 2 of the 2018-19 year), the NSW Resources Regulator received a total of 537 notifications. This represents an increase of 16% when compared to the same period a year before (quarter 2 of the 2017-18 year).

The vast majority of notifications received in the current quarter (69%) relate to high potential incidents. A further 18% relate to dangerous incidents.

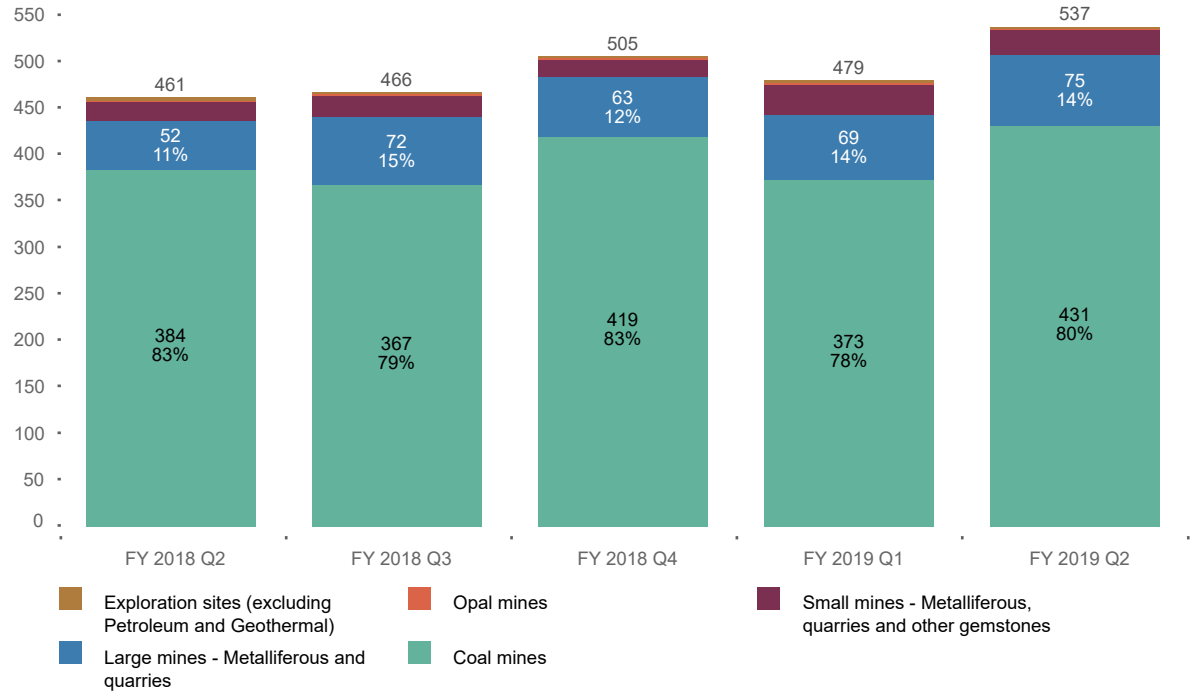
FIGURE 2. INCIDENT NOTIFICATIONS BY TYPE - OCTOBER 2017 TO DECEMBER 2018



As seen in Figure 3 below, in the current quarter (October, November, and December 2018), the vast majority of notifications received (80%) were from coal mines. Over the last five quarters, the proportion of notifications by coal mines has fluctuated between 78% to 83% of all notifications.

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

FIGURE 3. INCIDENT NOTIFICATIONS BY SECTOR - OCTOBER 2017 TO DECEMBER 2018



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 is published on our website.

Safety prosecutions

In the current quarter, the NSW Resources Regulator commenced five prosecutions. See Table 2 below.

Note, safety alerts and bulletins and significant incident and investigation reports are published on our website.

TABLE 2. PROSECUTIONS COMMENCED - OCTOBER 2018 TO DECEMBER 2018

Case name Incident date	Legislation	Defendant	Allegation/background
Lightning Ridge Siegel 4 Nov 2016	*Work Health and Safety Act 2011*	Individual	Contravened section 32, failed to comply with duty under section 19(1). Fatal injury underground in opal mine. Worker was struck by 120 kg steel materials bucket that fell 14 metres from surface down the shaft to at Mineral Claim 44507, Mulga Rush Opal Fields, Lightning Ridge.
Rix's Creek Norman 13 Dec 2016	*Work Health and Safety Act 2011*	Individual	Contravened section 32, failed to comply with duty under section 19(1). A worker suffered fatal head injuries while attempting to clean a coal haulage trailer when the raised tailgate fell and caught the worker's head between the tailgate and the trailer.

Major safety incidents of note

In the current quarter, there were NSW Resources Regulator commenced five safety incidents of note as detailed below in Table 2.

Note, safety alerts and bulletins and significant incident and investigation reports are published on our website.

TABLE 3. MAJOR SAFETY INCIDENTS OF NOTE - OCTOBER 2018 TO DECEMBER 2018

Date	Mining operation	Summary of incident
18 Oct 2018	Wilpinjong Coal Pty Ltd	A worker collapsed and died in crib room of the open cut coal mine on their second crib break of a 12-and-a-half-hour shift.
23 Oct 2018	Mt Arthur Coal Pty Ltd	Worker injured by high pressure water release when the grader the worker was operating struck a poly pipeline.
3 Nov 2018	Bengalla Mining Company Pty Limited	Tyre maintenance contractor worker fatally injured by earthmoving tyre that fell from a tyre handler forklift truck.
13 Nov 2018	Burgess Earthmoving Pty Ltd	Quarry workers and other persons were exposed to serious injury or death from flyrock.
4 Dec 2018	Moolarben Coal Operations Pty Ltd	A worker was fatally injured during travel.

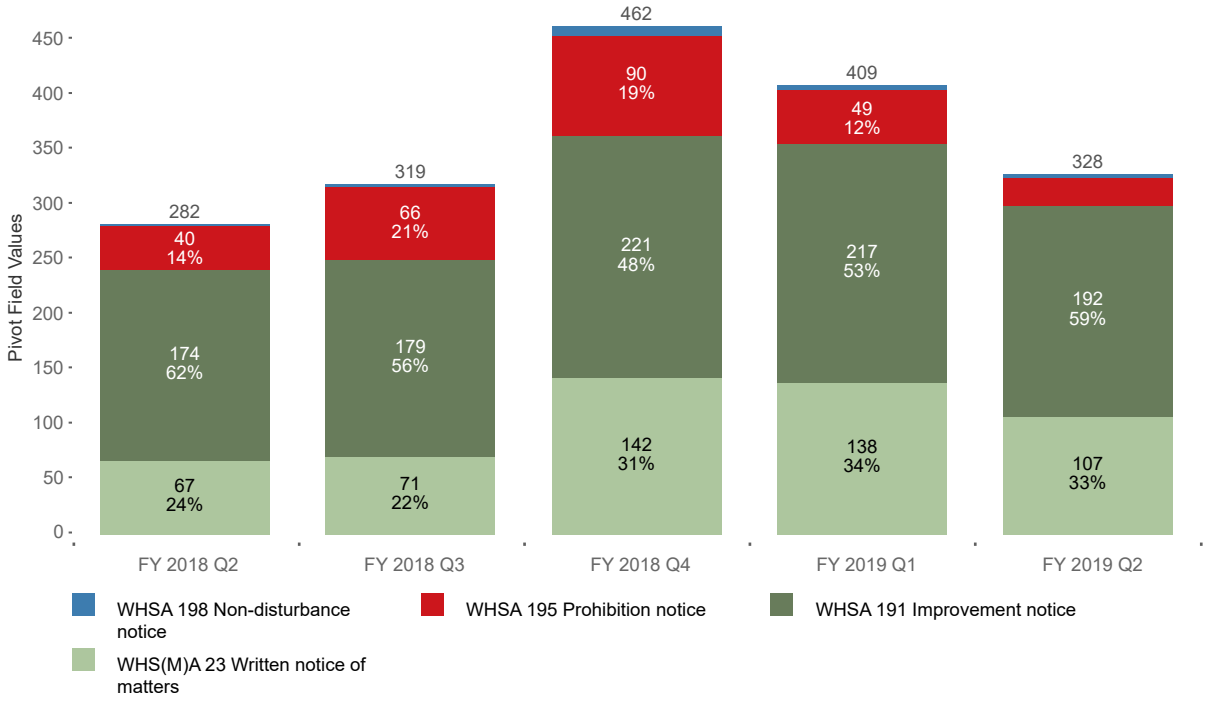
Safety notices issued

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

Figure 4 below shows the number and types of safety notices issued in the five quarters since October 2017. 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.

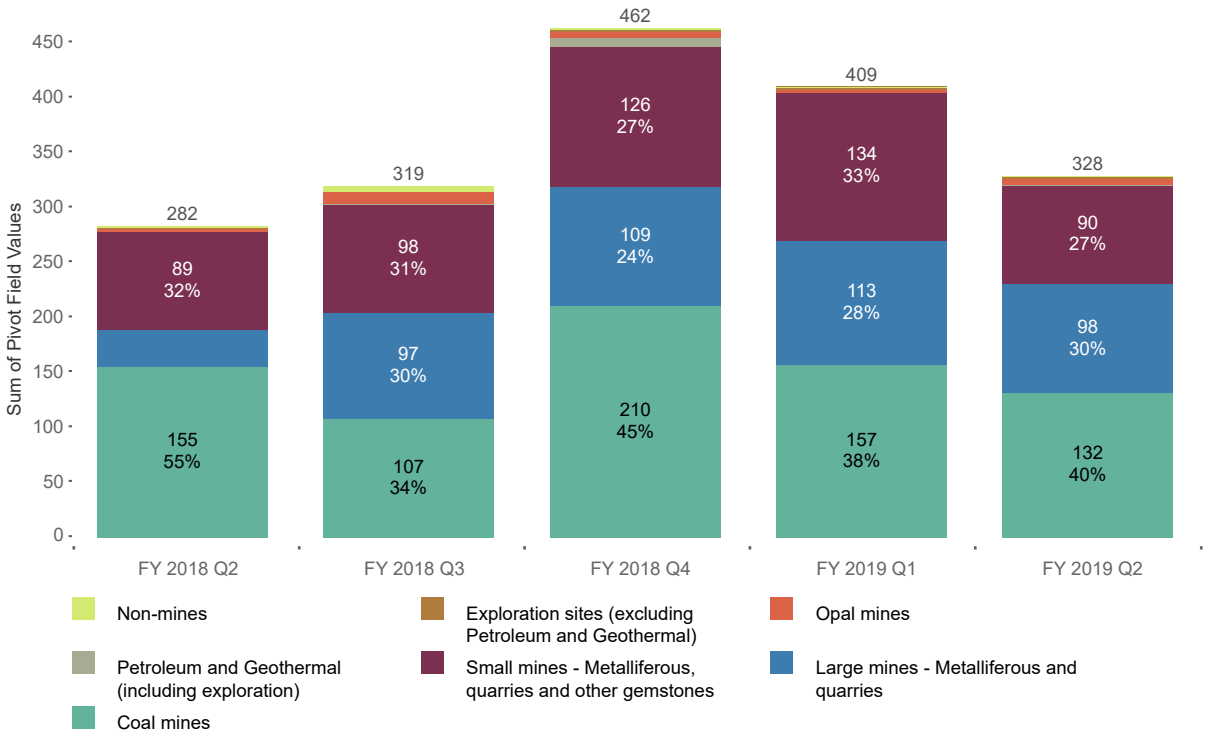
From October through December 2018 (quarter two 2018-19) the NSW Resources Regulator issued a total of 328 safety notices. More than half (59%) of safety notices in the current quarter were improvement notices, 33% were written notice of matters and 8% (26 of 328) were prohibition notices. This equates to the NSW Resources Regulator issuing on average one prohibition notice for approximately every seven improvement notices.

FIGURE 4. SAFETY NOTICES ISSUED BY TYPE - OCTOBER 2017 TO DECEMBER 2018



For the October, November and December 2018 quarter, 40% of safety notices were issued to coal mines, 30% of safety notices issued in large mines and 27% of safety notices issued in small mines. Collectively these three accounted for 97% of all safety notices issued in the current quarter.

FIGURE 5. SAFETY NOTICES ISSUED BY SECTOR - OCTOBER 2017 TO DECEMBER 2018



Safety assessments

Table 4 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, one notice was issued for approximately every three safety assessments. In comparison, in the large mines and small mines sectors, almost every assessment resulted in a notice.

In the opal sector one notice was issued for every 2.5 assessments. For the petroleum and geothermal sector, 28 assessments did not result in any notices being issued.

TABLE 4. SAFETY NOTICES AND ASSESSMENTS BY SECTOR - OCTOBER 2018 TO DECEMBER 2018

	Safety assessments	Notices issued	No. of assessments conducted per notice
All mines	717	328	2.19
Coal	436	132	3.30
Large mines and quarries	106	98	1.08
Small mines and quarries	81	90	0.90
Opal mines	15	6	2.50
Petroleum / geothermal	28	0	-
Exploration	1	2	0.50
Non-mine	50	0	-

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).

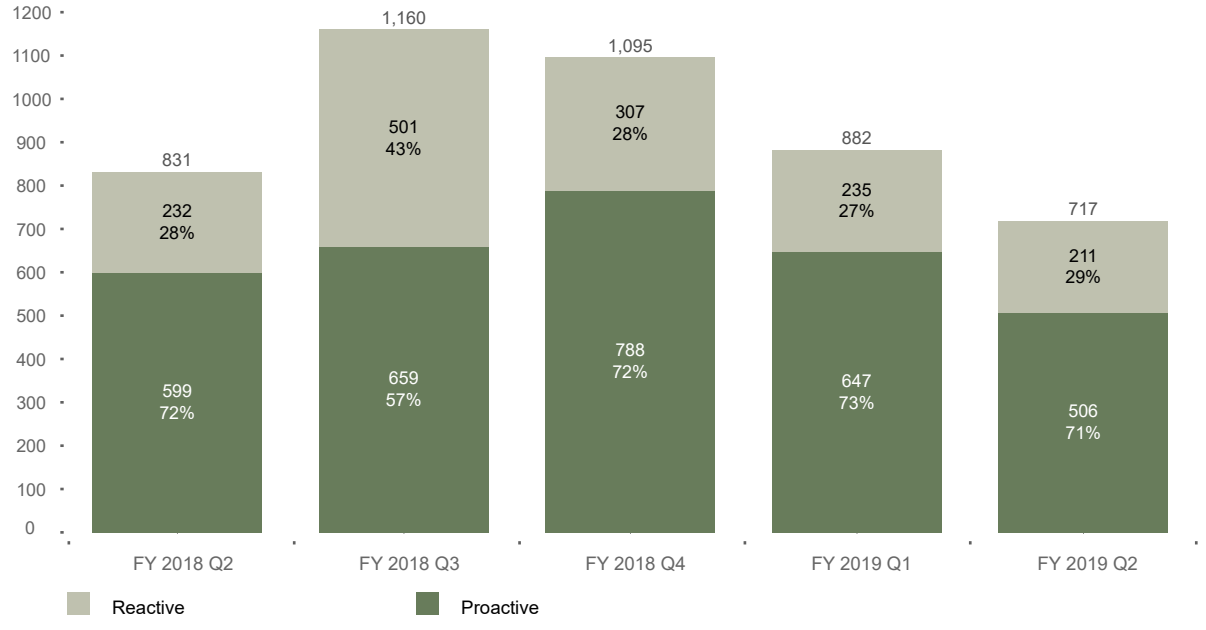
Targeted Assessment Program (TAPs) and Planned Inspections (PIs) are considered proactive in nature. Their purpose is to identify potential compliance weaknesses which could lead to an incident or injury. Both follow a pre-prepared plan focusing on principal mining hazards. TAPs focus closely on one 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 figure 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, 640 proactive assessments (activities not related to incidents and complaints) each quarter. Proactive assessments represents approximately 68% of all assessments.

In quarter two 2018-19 (the current quarter), 71% of all assessments were proactive in nature.

FIGURE 6. PROACTIVE AND REACTIVE SAFETY ASSESSMENTS - OCTOBER 2017 TO DECEMBER 2018



SAFETY ASSESSMENTS BY SECTOR

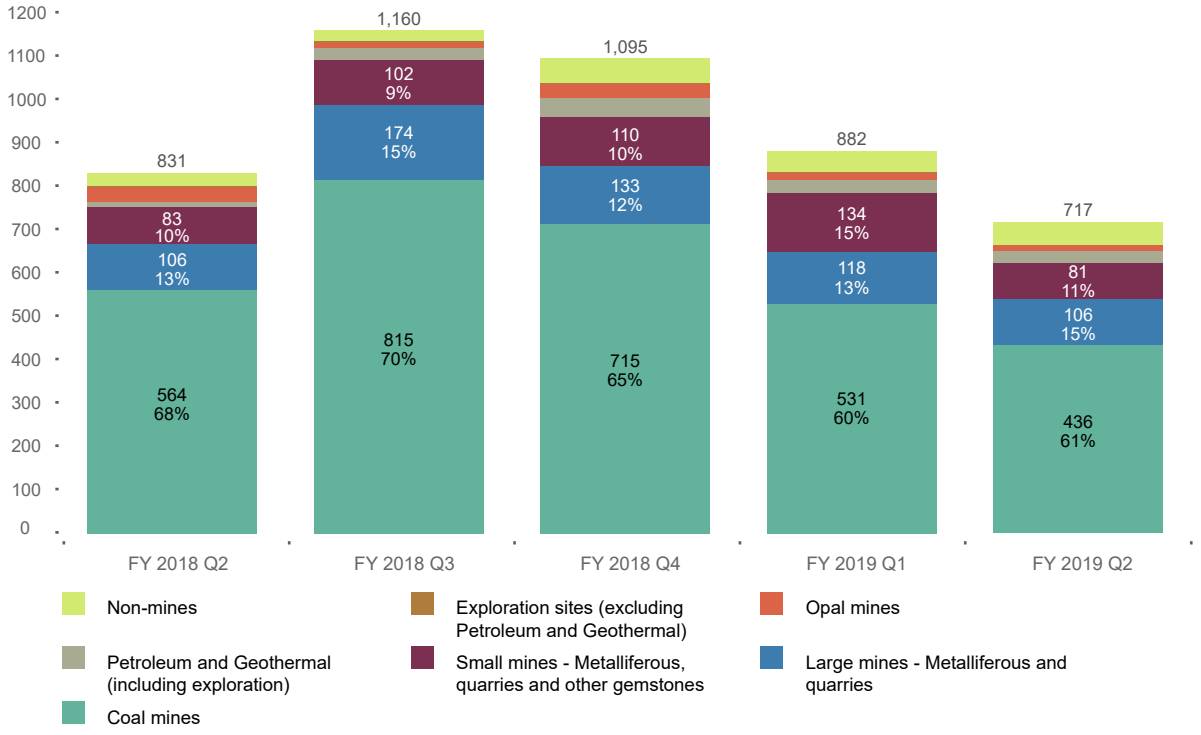
The NSW Resources Regulator undertakes regular safety assessments. The total number of these safety assessments over the past 15 months is shown below by mining sector.

Figure 7 below appears to show a declining trend in the total number of safety assessments. However, when previously reported data for 2017 is considered alongside this data, it actually reveals that in quarter 3 2017-18 and quarter 4 2017-18, the NSW Resources Regulator recorded a marked increase in safety assessment for those two periods. This is potentially due to preparations for, the undertaking of, and conclusion to a specific compliance operation that occurred in that time.

In the latest quarter, quarter two 2018-19, 61% of assessments were in the coal sector.

The figure below shows that for the previous five quarters, 65% of all assessments were conducted in the coal sector. See the sector profile sections of this report for more details.

FIGURE 7. SAFETY ASSESSMENTS BY MINING SECTOR - OCTOBER 2017 TO DECEMBER 2018



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, 12 TAPs were conducted. See table 5 below for detail.

For further details into the TAPs program, including completed program reports, see our website and our monthly business activity reports.

TABLE 5. TARGETED ASSESSMENT PROGRAMS CONDUCTED - OCTOBER 2018 TO DECEMBER 2018

Date	Hazard	Mine
9-10 Oct 2018	Diesel exhaust emissions	Integra UG
16-17 Oct 2018	Fire or explosion	Peak UG
23-24 Oct 2018	Airborne contaminants	Maules Creek OC
6-7 Nov 2018	Fatigue	Moolarben UG
13-14 Nov 2018	Diesel exhaust emissions	Austar
13-14 Nov 2018	Airborne contaminants	Boggabri Coal
20-21 Nov 2018	Fire or explosion	Airly Mine
20-21 Nov 2018	Fire or explosion	CSA Mine
4-5 Dec 2018	Diesel exhaust emissions	Tahmoor
11-12 Dec 2018	Airborne contaminants	Mt Owen
18-19 Dec 2018	Fatigue	Integra UG
18-19 Dec 2018	Fire or explosion	Tritton

Targeted intervention program

Targeted intervention programs (TIPs) are conducted in response to identified safety incidents or issues.

In the current quarter, no TIPs were conducted. For further details into the TIPs program, including completed program reports, see our website and our monthly business activity reports.

Safety issues and good practice examples

Design orders

The design of certain types of plant used in underground coal mines are required to be design registered under the Work Health and Safety Regulation 2017.

The design registration process is important in determining that plant has been designed to a particular standard and has been independently verified as conforming to those standards.

The NSW Resources Regulator publishes standards that plant must meet to gain design registration in the NSW Government Gazette. New design orders have been recently published to reflect more contemporary standards. The orders also make the design requirements clearer and help reduce regulatory burden by giving greater flexibility for testing and verifying that plant conforms with the standards.

New design orders have been published for the following plant:

- Diesel engine systems
- Breathing apparatus
- Booster fans
- Braking systems on plant used in underground transport
- Gas monitors
- Conveyor belting
- Person-riding hoists (winding systems)
- Detonators
- Shotfiring apparatus
- Explosive-powered tools
- Canopies on continuous miners
- Winding systems (other than person-riding hoists).

See our website for more information.

Emergency planning awareness and consultation program

The Emergency Planning and Response Capability Team within the NSW Resources Regulator have facilitated numerous engagement activities centred around building awareness of mine emergency planning requirements, including the NSW Mine Sub Plan and fostering co-operative and consultative relationships between mine operators and emergency service organisations.

The NSW Mine Sub Plan outlines specific arrangements for the management of emergencies and rescues at NSW Mines. This plan is a Sub Plan of the NSW State Emergency Management Plan, which is established under the *State Emergency and Rescue Management Act 1989*.

The roles and responsibilities within these plans and legislation form the framework for emergency management within NSW and need to be adopted into mine emergency plans so that effective and interoperable systems can be established to manage mine emergencies. This is of particular importance when emergency service organisations are involved in the response to an event.

Emergency planning awareness sessions have been held by the NSW Resources Regulator in conjunction with emergency services staff highlighting these issues at Wollongong, Lithgow and Wollondilly, with further sessions planned for Ulan, Gunnedah and Newcastle during 2019.

In addition, a consultation forum between mine operators and emergency services was established in the Hunter Valley area. The NSW Resources Regulator worked closely with the Local Emergency Management Committees in Singleton and Muswellbrook to identify solutions to the issues presented by the high number of coal mines in the areas required to consult with emergency services and others under Clause 89 of the Work Health and Safety (Mines and Petroleum sites) Regulation 2014.

Agreement was reached to hold a consultation forum between mine operators and emergency services specifically to discuss emergency planning and develop a coordinated approach to the issue. This forum was held during late 2018 involving more than 50 representatives of the areas mine operators, emergency services and the NSW Resources Regulator. Ongoing sessions are planned to be held to continue the important interactions between mine staff and emergency services to assist in the development of mine emergency plans.

Development of the Standardised Subsidence Information Management System (SSIMS)

Risk management of mine subsidence is a challenging task as mining-induced ground deformations can affect a wide range of the surface and sub-surface features with potentially severe consequences.

The NSW Resources Regulator's Standardised Subsidence Information Management System (SSIMS) Project began in April 2011. Following years of persistent efforts by a team of professional subsidence, mining and IT engineers, the project has produced a state-of-the-art web-based subsidence information resource system, the 'Standardised Subsidence Information Management System' (SSIMS).

The SSIMS comprises a Data Submission Portal, a Subsidence Database and a Data Query Portal.

The SSIMS Subsidence Database currently houses a total of 1,080,000 subsidence survey data points obtained from monitoring grids above 533 extracted longwalls in NSW. This will increase in size on an on-going basis as every operating longwall mine in NSW submits subsidence data through the SSIMS Data Submission Portal (required by clause 67(2)(d) of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014).

The SSIMS Data Query Portal allows regulatory agencies and industry users to interrogate the information stored in the SSIMS through the web for the purposes of risk-based regulation, risk management and recovery of coal resources in relation to subsidence.

Longwall extractions across all coalfields in NSW (single seam only) were divided into six groups according to the geometry of mine layouts. Query facilities are available for each of the six longwall groups in relation to the key subsidence parameters, i.e. vertical subsidence, compressive strain, tensile strain and tilt.

These query facilities are supported by an innovative methodology developed by the NSW Resources Regulator, where each reading of a given subsidence parameter (i.e. vertical subsidence, compressive strain, tensile strain or tilt) is correlated with its likelihood within a defined query range. This approach is new to conventional subsidence engineering.

The query facilities will provide a quantifiable likelihood for the occurrence of abnormal subsidence. The likelihood of abnormal subsidence is determined subject to the magnitude of the maximum (of a subsidence parameter) predicated by the mine operator.

The availability of a quantifiable likelihood and its associated magnitude of a given subsidence parameter will lead to improvement to risk-based regulation, risk management and recovery of coal resources in relation to subsidence.

Development of the Standardised Subsidence Information Management System (SSIMS) (cont.)

An under-predicted maximum, observed previously from time to time in NSW, will lead to a higher likelihood of abnormal subsidence, which must be duly considered in risk assessment.

Strong debates on such under-predicted subsidence should no longer be necessary.

Importantly, by focusing on the likelihood as well as its associated magnitude of subsidence, rather than the accuracy of the predicted magnitude in isolation, the methodology developed by the NSW Resources Regulator will promote significant industry cultural changes towards an improved risk-based approach to subsidence management.

The NSW Resources Regulator's work in this area is unique and ground breaking.

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 October, November and December 2018 quarter, there were 114 active coal mines - 69 surface and 45 underground operations. There were 25 'open' underground coal mines, 17 'under care and maintenance' and one 'intermittent'. The remaining three 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)

Figure 8 below shows the number of notifications received over the past five quarters from the coal sector. This shows an overall rising trend over time.

In the current quarter (quarter 2 of the 2018-19 year), the NSW Resources Regulator received a total of 431 notifications from the coal sector. This represents an increase of 12% when compared to the same period a year before (quarter 2 of the 2017-18 year).

The vast majority of notifications received in the current quarter (78%) relate to high potential incidents. A further 12% relate to dangerous incidents.

FIGURE 8. COAL SECTOR NOTIFICATIONS BY INCIDENT TYPE - OCTOBER 2017 TO DECEMBER 2018

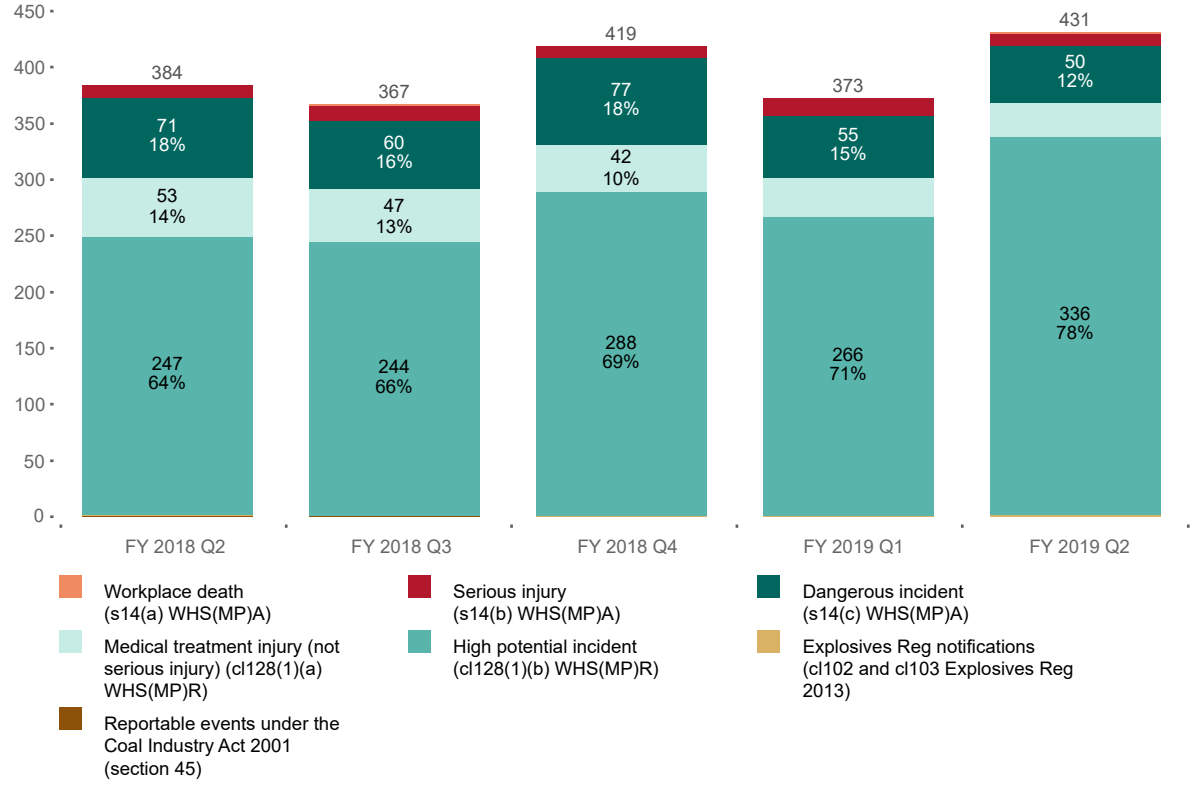
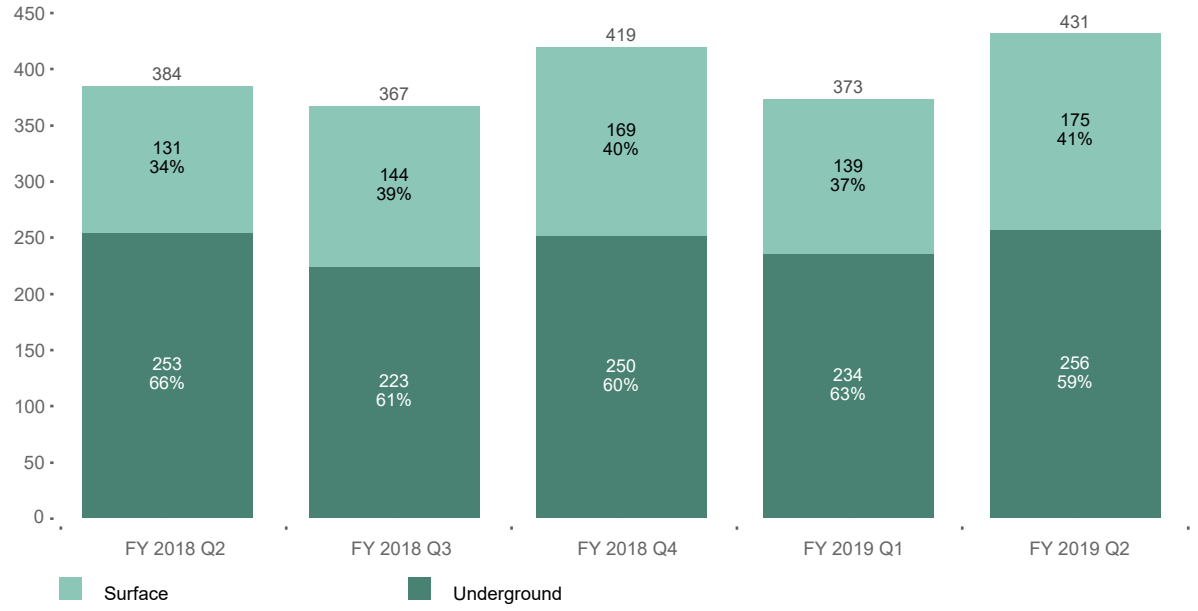


Figure 9 below shows the proportion of notifications received from surface and underground coal operations.

In the current quarter (October, November, and December 2018, quarter 2 of 2018-19), the majority of notifications received (59%) were from underground coal mines. Over the last five quarters, the proportion of notifications by underground coal mines has fluctuated between 59% of all notifications (this quarter) to 66% (the same period one year ago).

FIGURE 9. COAL SECTOR NOTIFICATIONS BY OPERATION TYPE - OCTOBER 2017 TO DECEMBER 2018



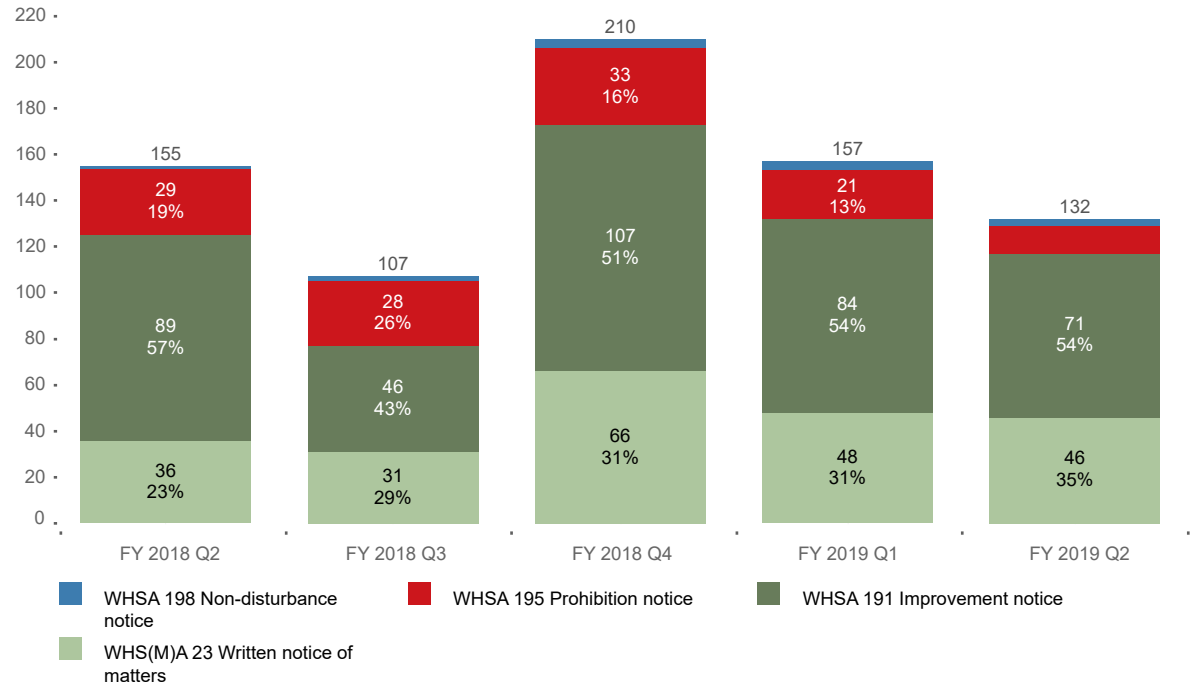
Coal sector compliance activities

SAFETY NOTICES ISSUED

Figure 10 below shows the number and types of safety notices issued in the coal sector in the five quarters since October 2017. 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 two 2018-19) the NSW Resources Regulator issued a total of 132 safety notices in the coal sector. More than half (54%) of those were improvement notices, 35% were written notice of matters and 9% (12 of 132) were prohibition notices. This equates to the NSW Resources Regulator issuing on average one prohibition notice for approximately every six improvement notices.

FIGURE 10. COAL SECTOR SAFETY NOTICES ISSUED - OCTOBER 2017 TO DECEMBER 2018



SAFETY ASSESSMENTS

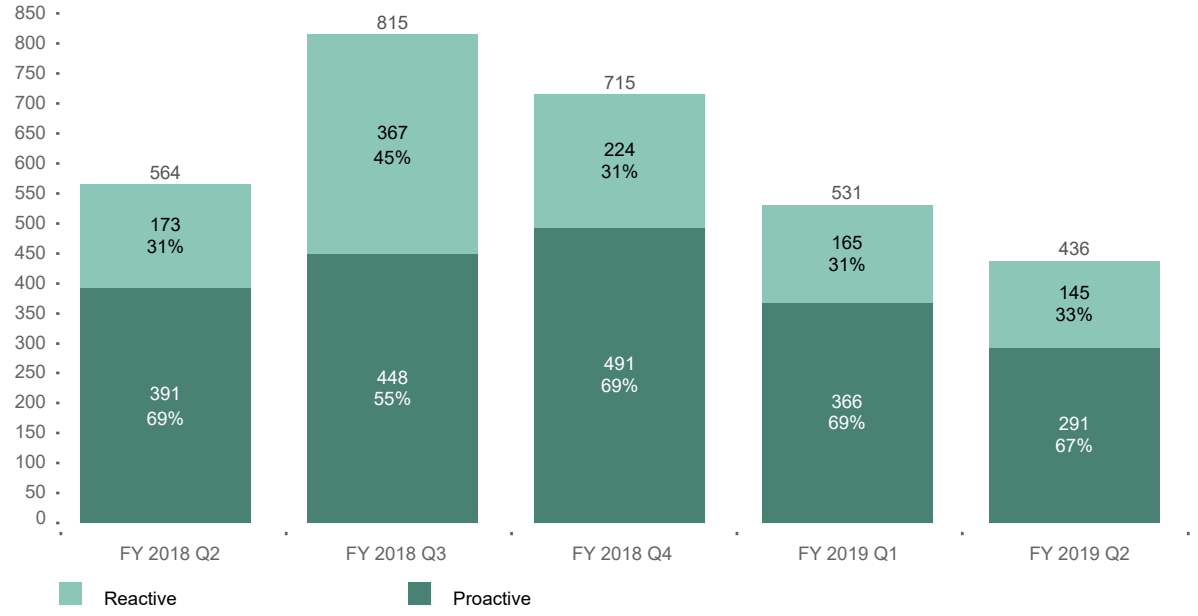
PROACTIVE AND REACTIVE ASSESSMENTS

Figure 11 below shows that for each of the quarters since October 2017, the NSW Resources Regulator's effort was focussed on proactive programs in the coal sector with a range of 55% to 69% of assessments in that sector over time being proactive in nature (activities not related to incidents and complaints).

On average, 397 proactive assessments were conducted each quarter, representing 65% of all assessments. In quarter two 2018-19, 67% of assessments were proactive in nature.

Note: The higher proportion of reactive assessments conducted in quarter three 2017-18 reflects the compliance focus during the period on closing out aged matters.

FIGURE 11. COAL ASSESSMENTS BY NATURE - OCTOBER 2017 TO DECEMBER 2018

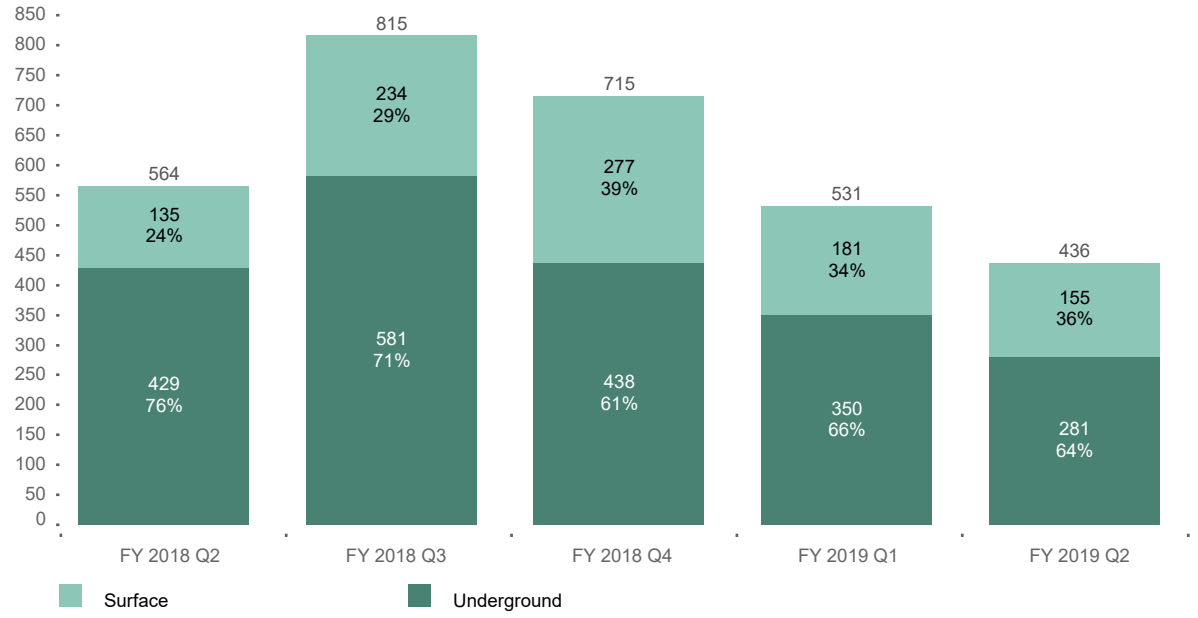


SAFETY ASSESSMENTS BY OPERATION TYPE

Figure 12 below shows that in the five quarters since October 2017, the vast 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 61% and 76% of assessments were in underground coal operations .

In the current quarter (quarter two 2018-19), 64% of all coal assessments were in underground operations.

FIGURE 12. COAL SECTOR ASSESSMENTS BY OPERATION TYPE - OCTOBER 2017 TO DECEMBER 2018



Spotlight on the coal sector

Prosecution commenced for 13 December 2016 fatality at Rix's Creek mine

On 11 December 2018, the NSW Resources Regulator commenced prosecution proceedings against Richard Wayne Simmons for allegedly failing to comply with work health and safety which resulted in the death of a mine worker.

The incident occurred on 13 December 2016, at Rix's Creek Mine, an open cut coal operation located five kilometres northwest of Singleton. It is alleged that a worker's head was struck by the steel tailgate of a haulage truck while the worker was attempting to climb into the trailer under the suspended tailgate in order to clean out residual material.

The worker suffered serious head injuries and passed away on 15 December 2016.

The NSW Resources Regulator commenced Category 2 proceedings under section 32 of the *Work Health and Safety Act 2011* for failure to comply with a health and safety duty. Of note, Category 2 Work Health and Safety offences attract a maximum penalty of $300,000 for individuals.

Large mines and quarries

Large mines and quarries safety profile

In the current quarter, there were 37 active large mines and quarries; 20 surface operations and 17 underground mines. There were 16 'open' underground large mines and quarries and one '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 details.)

Figure 13 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 2 of the 2018-19 year), the NSW Resources Regulator received a total of 75 notifications from the large mines and quarries sector. This represents an increase of 44% when compared to the same period a year before (quarter 2 of the 2017-18 year).

The majority of notifications received in the current quarter (51%) relate to dangerous incidents. A further 32% relate to high potential incidents. The proportions over time do fluctuate and this is most likely due to the smaller numbers overall.

FIGURE 13. LARGE MINES AND QUARRIES NOTIFICATIONS BY INCIDENT TYPE - OCTOBER 2017 TO DECEMBER 2018

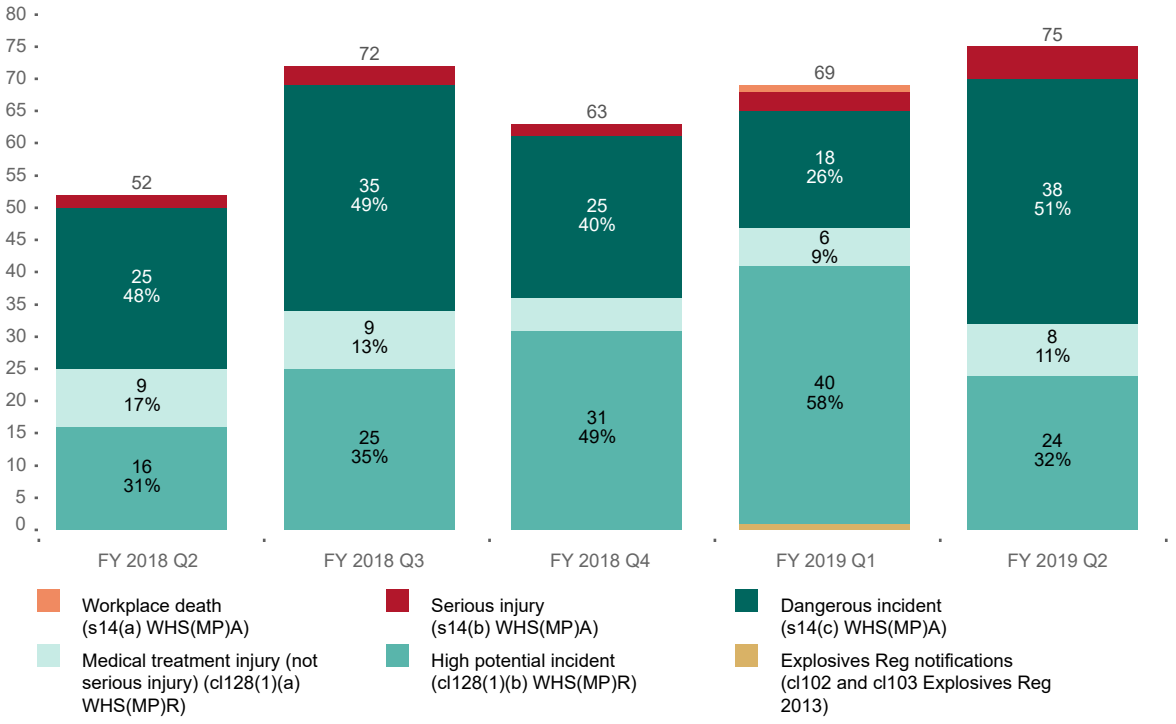
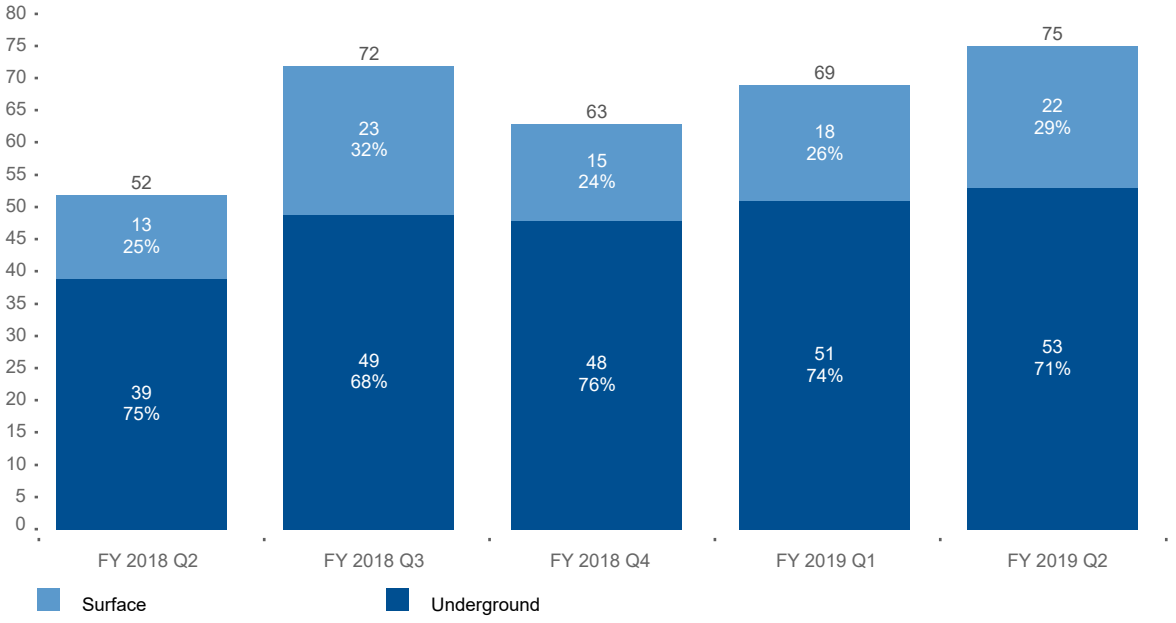


Figure 14 below shows incidents notified to the NSW Resources Regulator by operation type for large mines and quarries for the last five quarters. The number of incidents reported by either underground or surface operations (dredging, open cut mining and processing) is showing a slight upward trend.

Over time, the vast majority of incidents are notified by underground operations (varying between 68% to 76% of incidents).

In the current quarter, 71% of notifications from the large mines and quarries sector were received from underground operations.

FIGURE 14. LARGE MINES AND QUARRIES NOTIFICATIONS BY OPERATION - OCTOBER 2017 TO DECEMBER 2018



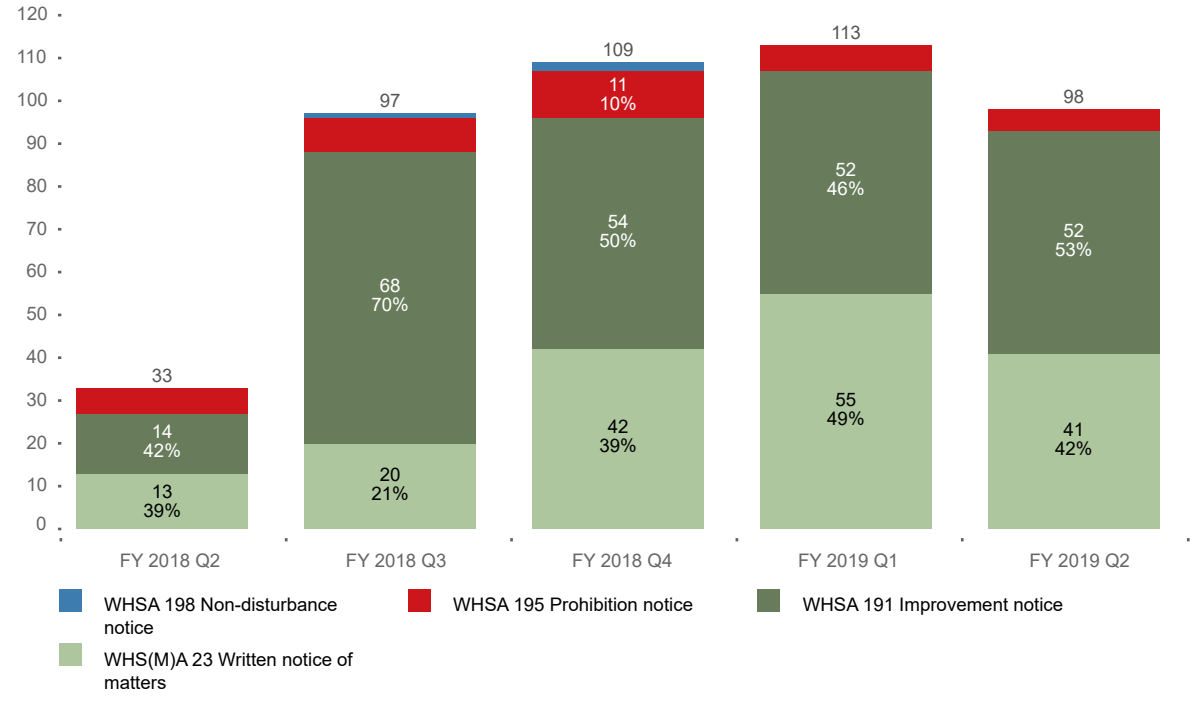
Large mines and quarries compliance activities

SAFETY NOTICES ISSUED

Figure 15 below shows the number and types of safety notices issued in the large mines and quarries sector in the five quarters since October 2017. 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 as well as a result of the smaller numbers of notices issued.

In the current quarter (quarter two 2018-19) the NSW Resources Regulator issued a total of 98 safety notices in the large mines and quarries sector. More than half (53%) of those were improvement notices, 42% were written notice of matters and 5% (5 of 98) were prohibition notices. This equates to the NSW Resources Regulator issuing on average one prohibition notice for approximately every eight improvement notices.

FIGURE 15. LARGE MINES AND QUARRIES SAFETY NOTICES ISSUED - OCTOBER 2017 TO DECEMBER 2018



SAFETY ASSESSMENTS

PROACTIVE AND REACTIVE ASSESSMENTS

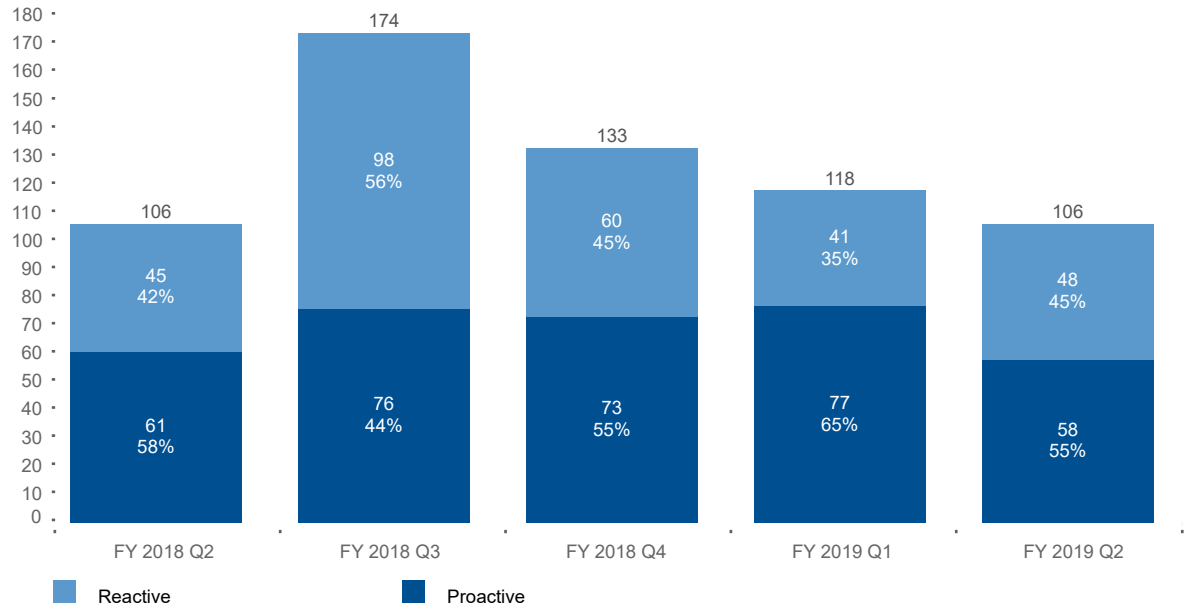
Figure 16 below shows that for each of the quarters since October 2017, the NSW Resources Regulator's effort was focussed on proactive programs rather than reactive ones.

On average, 69 proactive assessments (activities not related to incidents and complaints) in this sector were conducted each quarter, representing just over half of all assessments (54%).

In the current quarter, 55% of assessments were proactive in nature.

Note, the increased number of reactive assessments conducted in quarter three 2017-18 reflects the compliance focus at the time on closing out aged matters.

FIGURE 16. LARGE MINES AND QUARRIES ASSESSMENTS BY NATURE - OCTOBER 2017 TO DECEMBER 2018

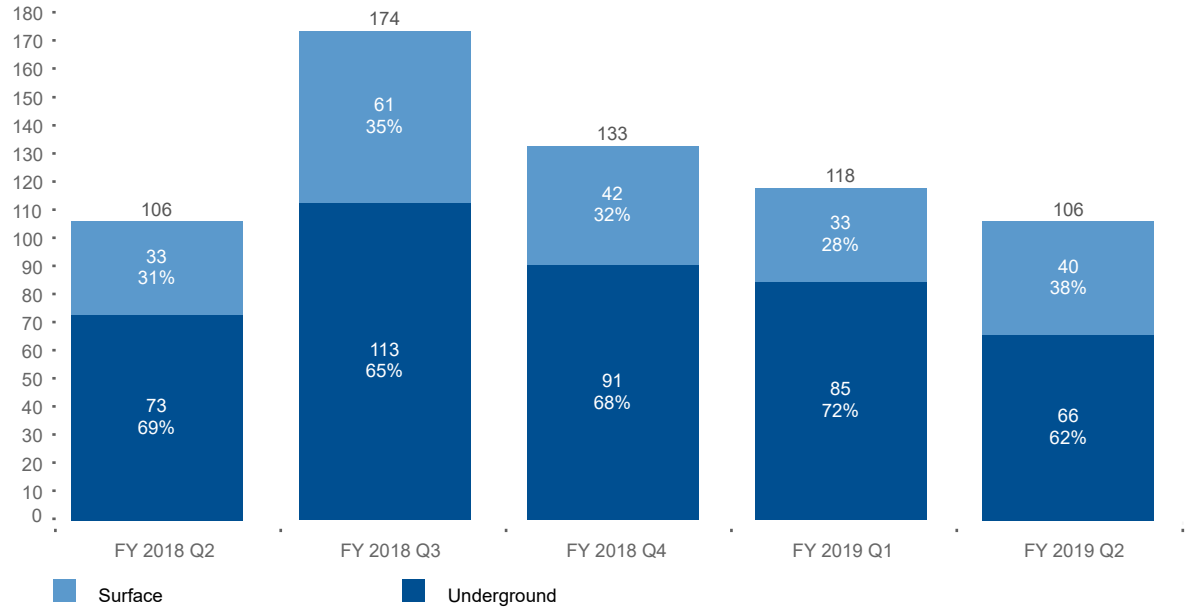


SAFETY ASSESSMENTS BY OPERATION TYPE

Figure 17 below shows the number of safety assessments conducted in underground and surface operations in the large mines sector in the past five quarters since October 2017. This shows that the majority of large mines and quarries assessments were in underground as compared to surface operations.

In the current quarter (quarter two 2018-19), 62% of all large mines and quarries assessments were in underground operations.

FIGURE 17. LARGE MINES AND QUARRIES SAFETY ASSESSMENTS BY OPERATION - OCTOBER 2017 TO DECEMBER 2018



Spotlight on large mines and quarries

Enforceable undertaking from Sibelco Australia for 1 February 2016 injury at the Sibelco Salt Ash sand plant

On 14 November 2018, the NSW Resources Regulator accepted an enforceable undertaking from Sibelco Australia Limited following an investigation into the serious injury of a worker at the Sibelco Salt Ash Sand Plant in the Hunter Valley.

On 1 February 2016, a worker was injured when he fell from an articulated dump truck that was being unloaded at the plant.

The undertaking requires Sibelco to develop an educational video on articulated dump truck safety, present learning from the incident five industry events and fund two internships for university students studying work health and safety.

The undertaking also requires Sibelco to donate $190,000 to the Hunter Brain Injury Service Centre.

Sibelco has also committed to pay the Regulator's costs of $171,752.00 making the total value of the undertaking $513,449.50.

Conviction for 6 September 2015 fatality at the underground Ridgeway mine at Cadia

On 3 December 2018, Newcrest Mining Ltd was convicted and fined $450,000 following a prosecution by the NSW Resources Regulator over the death of a worker at the underground Ridgeway Mine at Cadia near Orange on 6 September 2015.

The worker who was fatally injured when he was crushed in a pinch point between a water cannon and a mine wall at the Ridgeway Underground Mine.

Newcrest was convicted of a Category 2 offence for failing to comply with a health and safety duty under the *Work Health and Safety Act 2011*. The fine was discounted 25% after the company entered an early guilty plea.

An upcoming compliance priority project on falling objects

A review of incidents in this sector and across other sectors has highlighted that falling objects have caused one fatality during 2018; at least one serious injury; and multiple events where objects fell in close proximity to where people were working.

Falling objects are considered a principal hazard at some sites and management plans have been put in place. The NSW Resources Regulator has observed that other sites may not have such management plans, or the controls may be less than effective.

In 2019, the NSW Resources Regulator will commence work on a compliance priority project on falling objects. The mine safety inspectors will assess the effectiveness of existing controls with a view to direct improvements where necessary to reduce the risk of harm.

Small mines and quarries

Small mines and quarries safety profile

In the current quarter there were 2,633 active small mines and quarries in NSW. Almost all of the small mines are surface operations (2,603 from 2,633, or 99%).

Of the surface operations, 1,769 are classed as 'intermittent'; 709 are classed as 'open'; '93' are classed as 'under care and maintenance' 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 details.)

Figure 18 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 and it is difficult to perform a trend analysis.

In the current quarter (quarter 2 of the 2018-19 year), the NSW Resources Regulator received a total of 27 notifications from the small mines and quarries sector. This represents an increase of 29% when compared to the same period a year before (quarter 2 of the 2017-18 year).

FIGURE 18. SMALL MINES SAFETY NOTIFICATIONS BY OPERATION - OCTOBER 2017 TO DECEMBER 2018

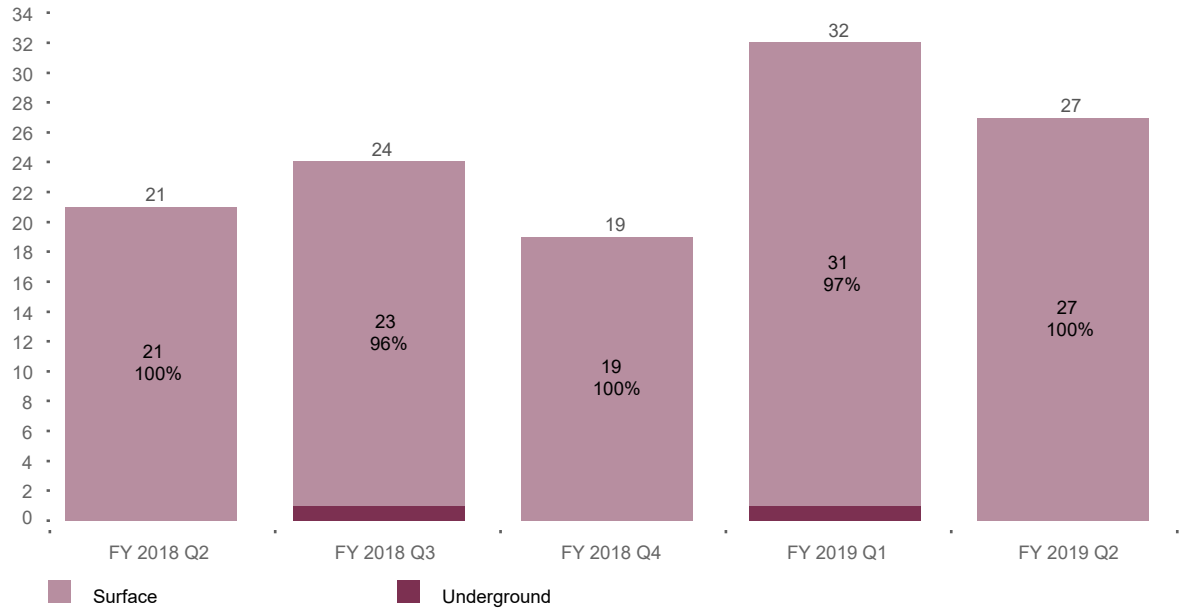
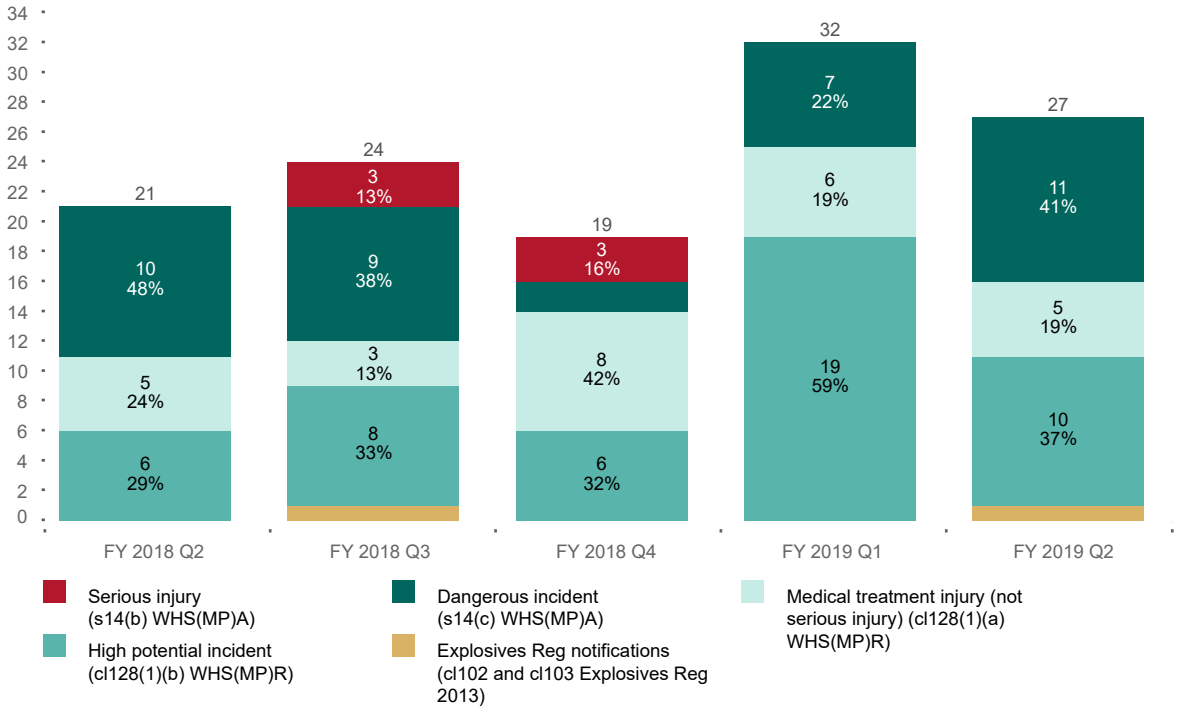


Figure 19 below shows incidents notified to the NSW Resources Regulator by operation type for small mines and quarries for the last five quarters.

The majority of notifications received in the current quarter (41%) relate to dangerous incidents. A further 37% relate to high potential incidents. The proportions over time do fluctuate and are probably due to the smaller numbers overall.

FIGURE 19. SMALL MINES NOTIFICATIONS BY INCIDENT TYPE - OCTOBER 2017 TO DECEMBER 2018



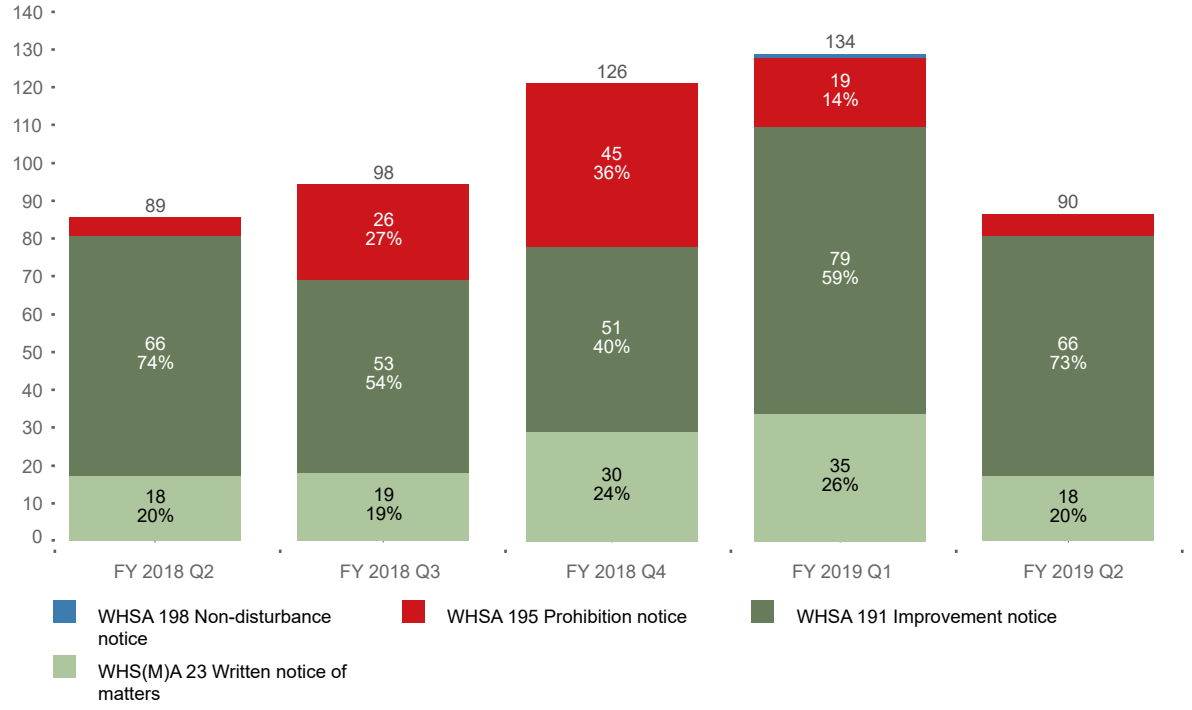
Small mines and quarries compliance activities

SAFETY NOTICES ISSUED

Figure 20 below shows the number and types of notices by the NSW Resources Regulator in the five quarters since October 2017 in the small mines and quarries sector.

In the current quarter (quarter 2 2018-19), the NSW Resources Regulator issued 90 safety notices. This is similar to the same period the previous year (where 89 notices were issued) but less than previous quarters. Of the 90 notices in that period, 66 (73%) were improvement notices, 20% (18 of 90) were written notice of matters and 7% (6 of 90) were prohibition notices. This equates to the NSW Resources Regulator issuing on average one prohibition notice for approximately every eleven improvement notices.

FIGURE 20. SMALL MINES SAFETY NOTICES ISSUED - OCTOBER 2017 TO DECEMBER 2018



SAFETY ASSESSMENTS

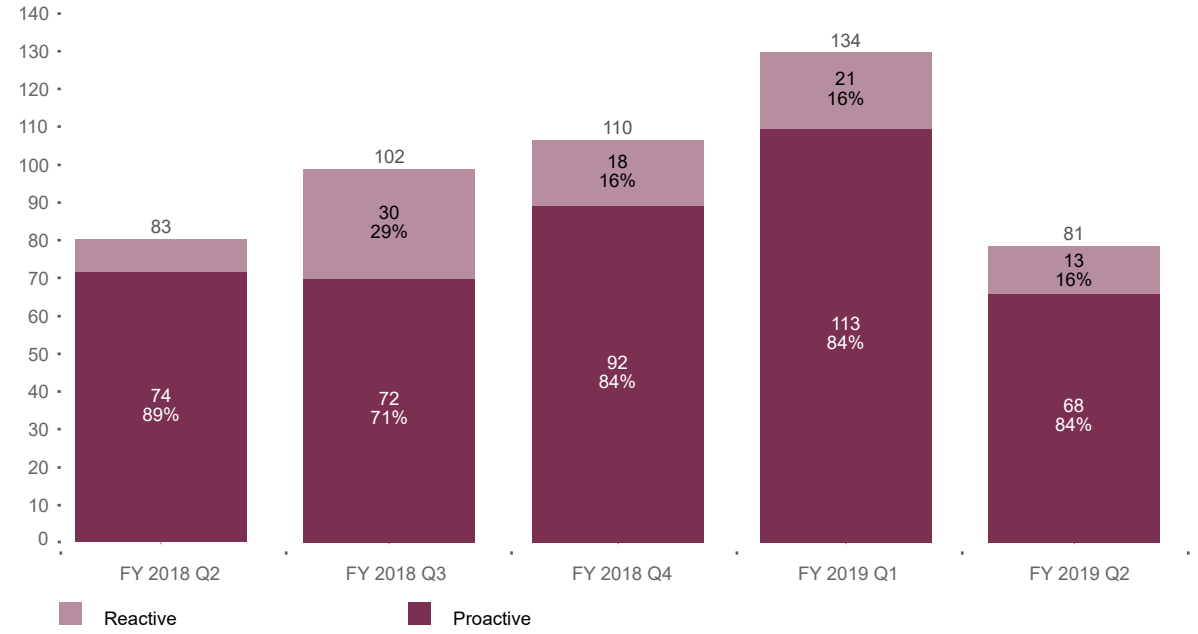
PROACTIVE AND REACTIVE ASSESSMENTS

Figure 21 below shows that for each of the quarters since October 2017, 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, 84% of assessments were proactive in nature.

On average, 84 proactive assessments in this sector were conducted each quarter, representing 82% of all assessments.

FIGURE 21. SMALL MINES ASSESSMENTS BY NATURE - OCTOBER 2017 TO DECEMBER 2018

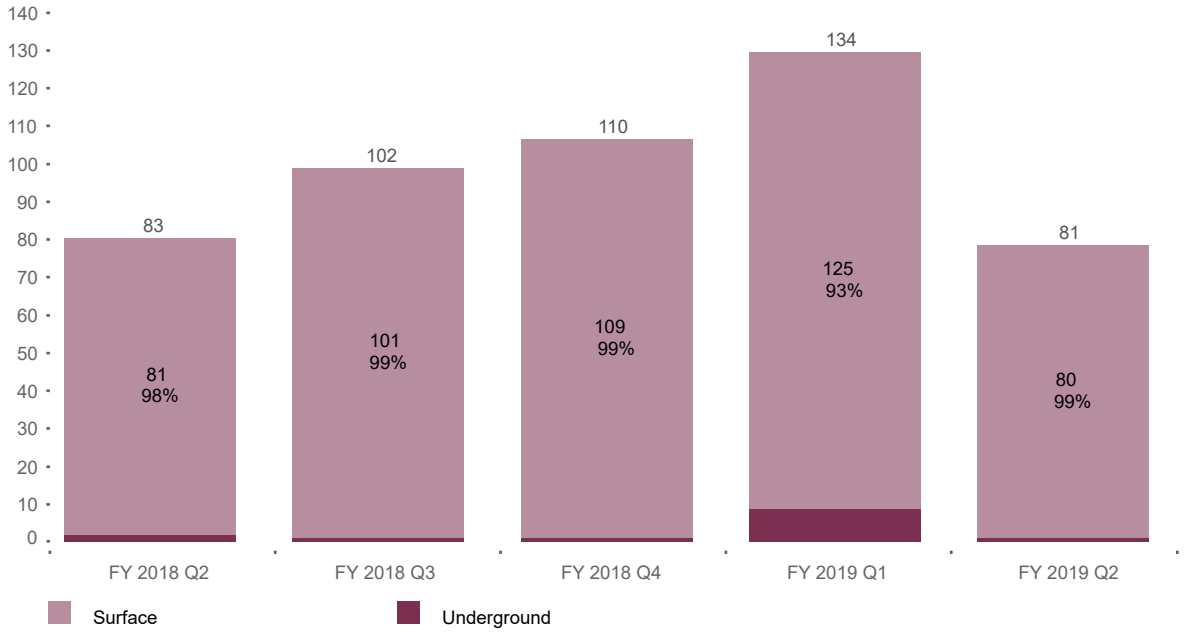


SAFETY ASSESSMENTS BY OPERATION TYPE

Figure 22 below shows the number of safety assessments conducted in underground and surface operations in the small mines and quarries sector in the past five quarters since October 2017. This shows that the majority of small mines and quarries assessments were in surface operations compared to underground.

In the current quarter (quarter two 2018-19), 99% of all small mines and quarries assessments were in surface operations.

FIGURE 22. SMALL MINES SAFETY ASSESSMENTS BY OPERATION - OCTOBER 2017 TO DECEMBER 2018



Spotlight on small mines

Fine for failing to report dangerous incidents

On 30 November 2018, the Local Court of NSW convicted and fined NSW Quarry Services Pty Ltd $30,000 for failing to report two dangerous roll-over incidents to the NSW Resources Regulator.

These notifiable incidents involved an articulated truck at the Bates Quarry near Kempsey on 10 January 2017. The NSW Resources Regulator alleged the mine operator, NSW Quarry Services, breached sections 15 and 17 of the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* by failing to notify the NSW Resources Regulator about the incidents and failing to ensure the incident sites were not disturbed.

The maximum penalty for the offences is $50,000.

NSW Quarry Services was also ordered to pay the NSW Resources Regulator's legal costs, agreed between the parties to be $25,000.

In handing down the decision, the NSW Local Court noted that the NSW Resources Regulator had previously issued NSW Quarry Services with an official caution and improvement notice over its failure to report a serious incident involving a truck collision in July 2015.

Opal mines

Opal mines safety profile

In the current quarter, there were 3,436 active opal mines in NSW. Almost all the opal mine sector is composed of underground small-scale titles.

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 details.)

In the current quarter, two incidents were notified to the NSW Resources Regulator in the opal mine sector, representing just under 0.4% of the total number of 'all industry' incidents reported during that time.

The NSW Resources Regulator is currently examining potential incident under-reporting as a priority compliance project. This report therefore sought to establish reporting benchmarks against which to measure future impacts of the project.

TABLE 6. OPAL NOTIFIED SAFETY INCIDENTS - OCTOBER 2017 TO DECEMBER 2018

	Q2 2017 18	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19
Number of notified incidents	0	1	2	2	2
All sector - total notified incidents	461	466	505	479	537

Opal mines compliance activities

SAFETY NOTICES ISSUED

Table 7 below shows the number of safety notices issued by the NSW Resources Regulator in the last five quarters in the opal sector.

In the current quarter (quarter 2 of 2018-19), the NSW Resources Regulator issued six safety notices.

TABLE 7. OPAL SAFETY NOTICES ISSUED - OCTOBER 2017 TO DECEMBER 2018

	Q2 2017 18	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19
Safety notices issued	3	12	5	2	6
All sector – safety notices issued	282	319	462	409	328

SAFETY ASSESSMENTS

Table 8 below shows the number of safety assessments conducted by the NSW Resources Regulator in the last five quarters in the opal sector.

In the current quarter (quarter 2 of 2018-19), the NSW Resources Regulator conducted 15 safety assessments.

TABLE 8. OPAL SAFETY ASSESSMENTS - OCTOBER 2017 TO DECEMBER 2018

	Q2 2017 18	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19
Safety assessments conducted	36	12	31	16	15
All sector – safety assessments conducted	831	1,160	1,095	882	717

Spotlight on opal mines

Prosecution commenced for 4 November 2016 fatality in the Mulga Rush Opal Fields

On 2 November 2018, the NSW Resources Regulator commenced prosecution proceedings against Tony Glenn Cummings for allegedly failing to comply with work health and safety which resulted in the death of a miner.

The incident occurred on 4 November 2016 at opal mineral claim MC 44507 located in the Mulga Rush Opal Fields, about 40 km southwest of Lightning Ridge.

It is alleged that a bucket from a hoisting system fell down a mine shaft, striking a miner who was in the sump of the mine, some 13 metres below ground level. The miner suffered fatal injuries.

The NSW Resources Regulator commenced Category 2 proceedings under section 32 of the *Work Health and Safety Act 2011* for failure to comply with a health and safety duty. Note, Category 2 Work Health and Safety offences attract a maximum penalty of $300,000 for individuals.

Petroleum and geothermal

Petroleum and geothermal mines safety profile

In the current quarter, there were 267 active petroleum and geothermal mines in NSW. All were surface 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 details.)

Table 9 shows that there were no notified incidents in the petroleum and geothermal sector in the past five quarters.

TABLE 9. PETROLEUM AND GEOTHERMAL NOTIFIED INCIDENTS - OCTOBER 2017 TO DECEMBER 2018

	Q2 2017 18	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19
Number of notified incidents	0	0	0	0	0
All sector – total notified incidents	461	466	505	479	537

Petroleum and geothermal mines compliance activities

SAFETY NOTICES ISSUED

Table 10 below shows the number of safety notices issued by the NSW Resources Regulator in the last five quarters in the petroleum and geothermal sector.

In the current quarter (quarter 2 of 2018-19), the NSW Resources Regulator issued no safety notices.

Note, in quarter four 2017-18, the nine safety notices issued were as a result of the NSW Resources Regulator conducting a high visibility compliance operation. The focus was on well sites within one kilometre of residential areas.

TABLE 10. PETROLEUM AND GEOTHERMAL SAFETY NOTICES ISSUED - OCTOBER 2017 TO DECEMBER 2018

	Q2 2017 18	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19
Safety notices issued	0	0	9	0	0
All sector – safety notices issued	282	319	462	409	328

SAFETY ASSESSMENTS

Table 11 below shows the number of safety assessments conducted by the NSW Resources Regulator in the last five quarters in the petroleum and geothermal sector.

In the current quarter (quarter 2 of 2018-19), the NSW Resources Regulator conducted 28 safety assessments.

TABLE 11. PETROLEUM AND GEOTHERMAL SAFETY ASSESSMENTS - OCTOBER 2017 TO DECEMBER 2018

	Q2 2017 18	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19
Safety assessments conducted	12	30	49	33	28
All sector – safety assessments conducted	831	1,160	1,095	882	717

Exploration

Exploration safety profile

In the current quarter, there were 712 active exploration sites excluding petroleum and geothermal in NSW. All were surface exploration sites.

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 details.)

In quarter two 2018-19, the NSW Resources Regulator was notified of two safety incidents in the exploration sector, representing almost 0.4% of the total number of incidents across all sectors.

TABLE 12. EXPLORATION NOTIFIED INCIDENTS - OCTOBER 2017 TO DECEMBER 2018

	Q2 2017 18	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19
Number of notified incidents	4	2	2	3	2
All sector – total notified incidents	461	466	505	479	537

Exploration compliance activities

SAFETY NOTICED ISSUED

Table 13 below shows the number of safety notices issued by the NSW Resources Regulator in the last five quarters in the exploration sector.

In the current quarter (quarter 2 of 2018-19), the NSW Resources Regulator issued two safety notices.

TABLE 13. EXPLORATION SAFETY NOTICES ISSUED - OCTOBER 2017 TO DECEMBER 2018

	Q2 2017 18	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19
Safety notices issued	1	0	2	3	2
All sector – safety notices issued	282	319	462	409	328

SAFETY ASSESSMENTS

Table 14 below shows the number of safety assessments conducted by the NSW Resources Regulator in the last five quarters in the exploration sector.

In the current quarter (quarter 2 of 2018-19), the NSW Resources Regulator conducted one safety assessment.

TABLE 14. EXPLORATION SAFETY ASSESSMENTS - OCTOBER 2017 TO DECEMBER 2018

	Q2 2017 18	Q3 2017 18	Q4 2017 18	Q1 2018-19	Q2 2018-19
Safety assessments conducted	2	5	2	4	1
All sector – safety assessments conducted	831	1,160	1,095	882	717

Appendices

Appendix 1.
NSW Safety incident notification legislation

Incident notification	Legislation
Workplace Death	*s.14(a) Work Health and Safety (Mines and Petroleum sites) Act 2013*
Serious Injury or Illness	*s.14(b) Work Health and Safety (Mines and Petroleum sites) Act 2013*
Dangerous incident	*s.14(c) Work Health and Safety (Mines and Petroleum sites) Act 2013*
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	s.45 *Coal Industry Act 2001* A reportable event at a mine rescue station.