NSW GOVERNMENT

NSW Resources Regulator

Mine safety performance report

2020 - 2021

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Dec 2021	1	First published
Dec 2021	2	Updates made to figures on pages 14 (serious injuries updated to 117) and 61 (year updated in serious injuries notified bullet point to 2020-21).

NSW GOVERNMENT

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Mine safety performance overview

Fatal injuries

2 INCREASE OF 1 IN 2020-21 FROM 1 IN 2019-20

Death of miner at opal mine

On 14 October 2020, an opal miner suffered fatal injuries while working at an underground opal mine. The miner was investigating a fault with the mine's material hoist on the surface of the mine. A short time later the miner was found unresponsive in the sump of the hoist shaft, approximately seven metres beneath the surface. The injuries sustained by the miner are consistent with a fall from height. The cause of the fall has not been determined.

See Investigation Information Release IIR20-12 for more information.

Worker struck by light vehicle at quarry

On 24 May 2021, a worker suffered fatal injuries after being struck by a light vehicle. The worker was kneeling down to retrieve dropped items from the ground, when the driver of the light vehicle performed a left-hand U-turn. The driver did not see the worker and the front passenger side of the vehicle struck the worker.

See Investigation Information Release IIR21-07 for more information.

Serious injuries

117 INCREASE OF 11 IN 2020-21 FROM 106 IN 2019-20

Overall increases were observed in serious injuries caused by fractures and wounds, lacerations and amputations to the trunk or chest and hands, fingers and wrists. Refer to the main report for a detailed analysis of serious injuries and illnesses including bodily location, nature, mechanism and employment type since 2018-19.

Fatal and serious injuries

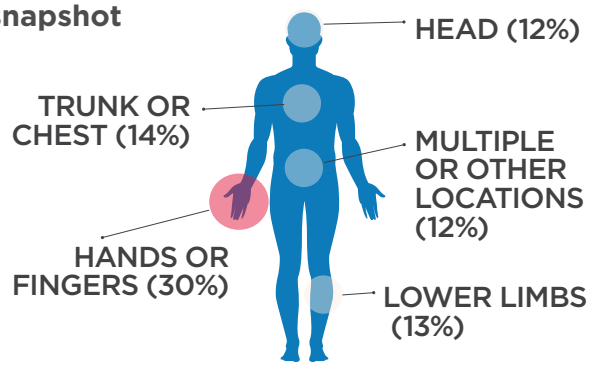
Fatal and serious injuries snapshot

MECHANISM

Being hit by moving objects **(61%)**

Falls, trips and slips of a person **(29%)**

**Represents 89% of the total*



**Represents 81% of the total*

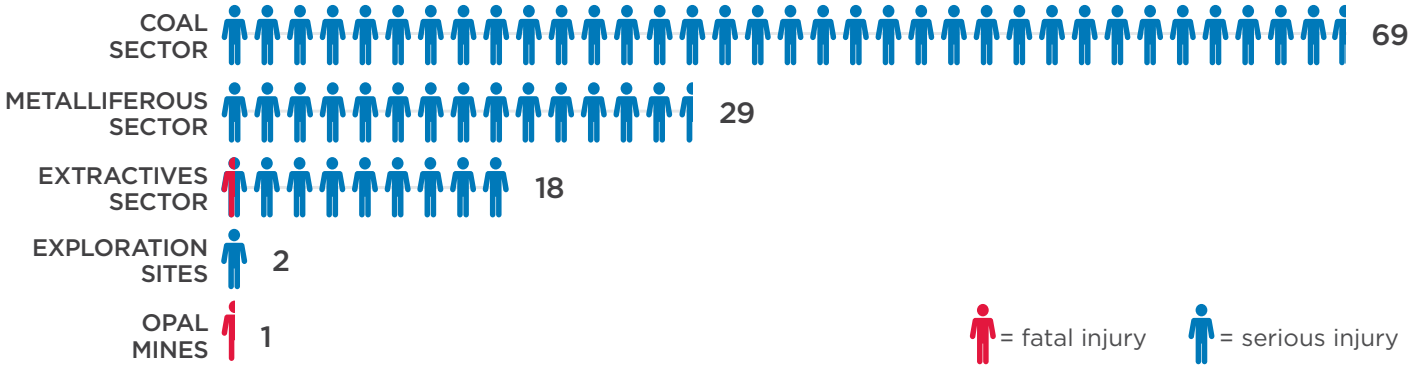
NATURE OF INJURY

Fractures **(45%)**

Wounds, lacerations, amputations and internal organ damage **(35%)**

**Represents 80% of the total*

Fatal and serious injuries by sector (one person = 2 injuries)



LTIs LOST TIME INJURIES

290 INCREASE OF 17 IN 2020-21 FROM 273 IN 2019-20

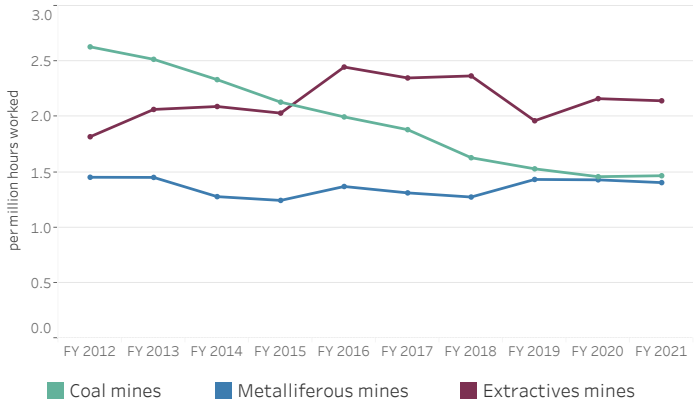
TRIs TOTAL RECORDABLE INJURIES

864 INCREASE OF 42 IN 2020-21 FROM 822 IN 2019-20

Mine safety performance overview

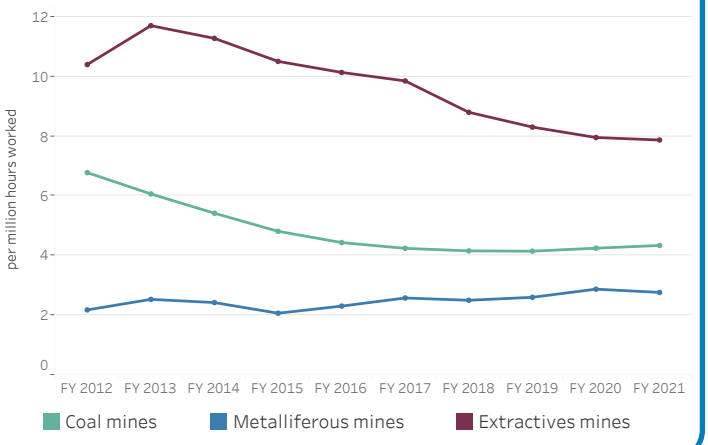
SIFR

Five year average serious injury frequency rate



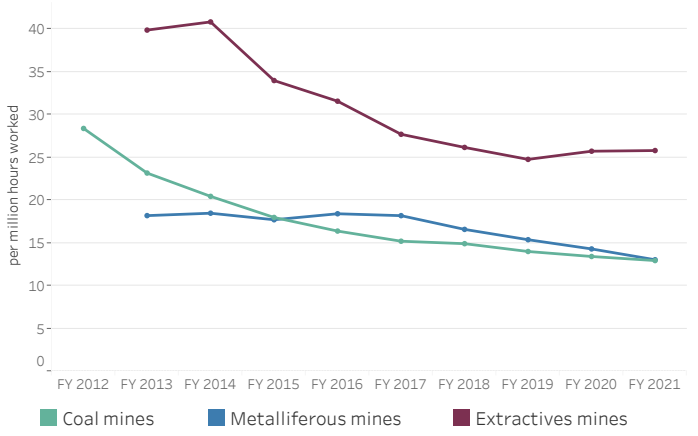
LTIFR

Five year average lost time injury frequency rate



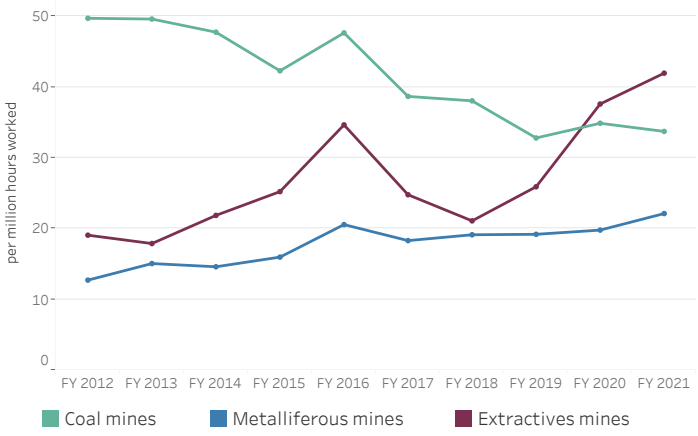
TRIFR

Five year average total recordable injury frequency rate



INFR

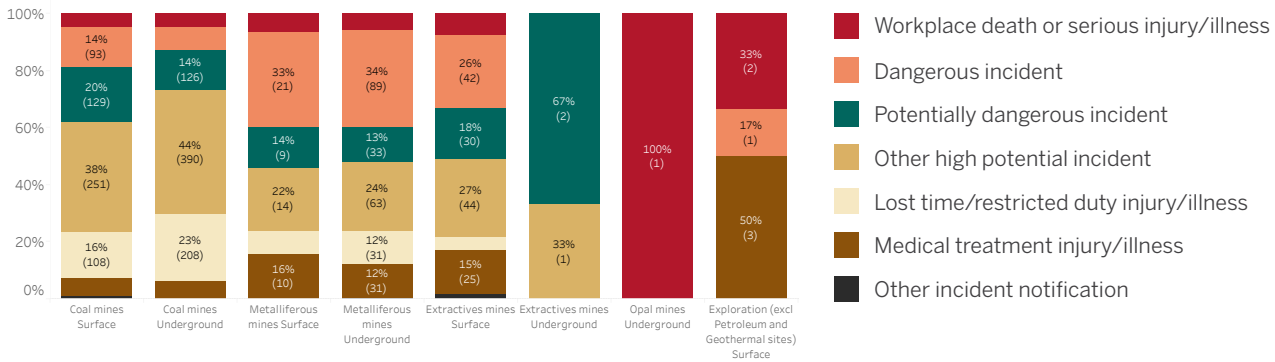
Annual incident notification frequency rate



Incidents

2,049 DECREASE OF 93 IN 2020-21 FROM 2,142 IN 2019-20

Incident notification profile 2020-21

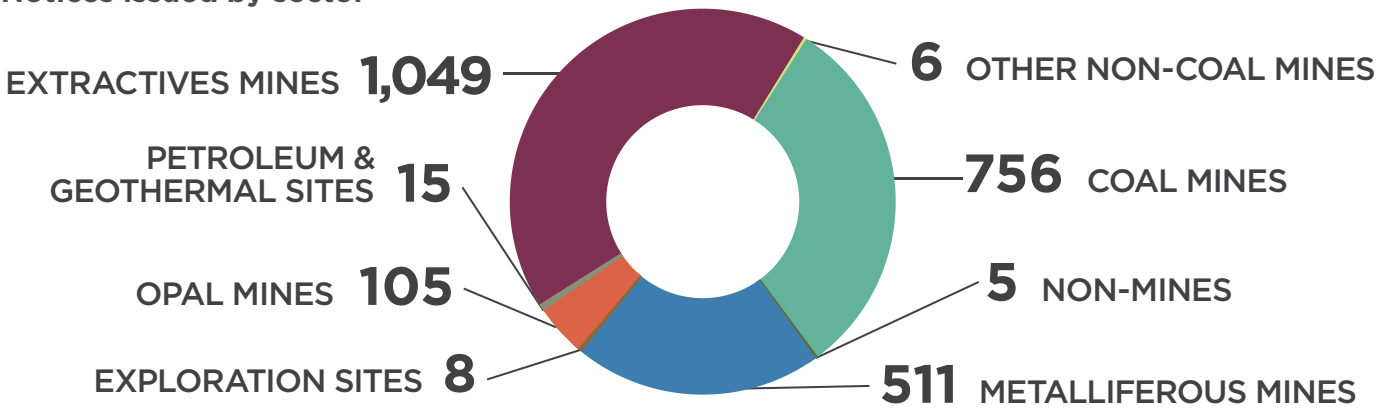


Mine safety performance overview

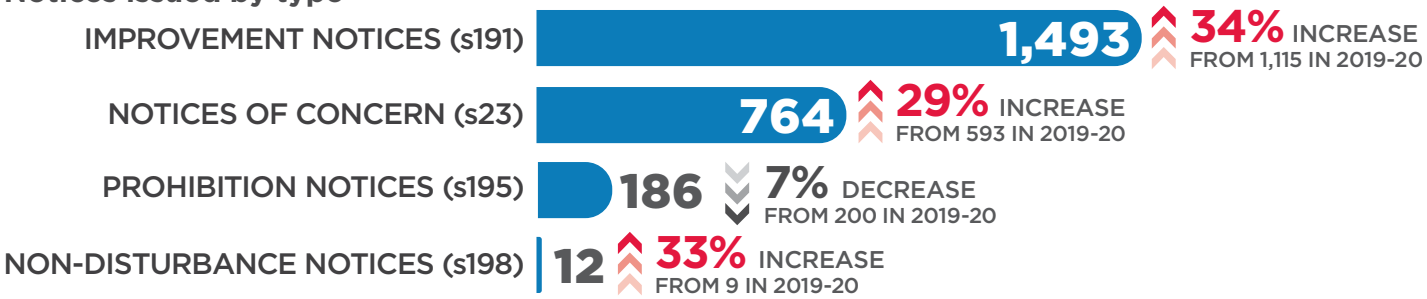
Notices issued

2,455 INCREASE OF 538 IN 2020-21 FROM 1,917 IN 2019-20

Notices issued by sector



Notices issued by type



Hours worked

64.7m DECREASE OF 2.6m IN 2020-21 FROM 67.3m IN 2019-20

Total hours worked in 2020-21

For more information

This overview was first published in December 2021 with data current at October 2021.

Visit our website for more information.

Executive summary

This report provides an overview of the NSW mining industry's health and safety performance for the financial year 2020-21, as reported to the NSW Resources Regulator. It compares safety indicators over the ten years from 2011-12 and includes details of selected regulatory activities over the same period. In this report, the NSW mining industry includes the coal, metalliferous, extractives, petroleum and geothermal, opal and exploration sectors.

For mine and petroleum site operators, this report presents measures to guide future improvements in health and safety performance and to benchmark performance against other operators in their sector. It also provides a valuable source of information on the types of injuries occurring in order to guide regulatory activity.

Work health and safety regulatory intervention has been in place in the Australian mining industry for more than a century. Despite significant ongoing efforts by the NSW mining industry and the Regulator to minimise the health and safety risks to workers, 2020-21 saw two fatal injuries, 117 serious injuries, 290 lost time injuries and 864 total recordable injuries reported to the Regulator.

The fatal injury frequency rate in the NSW mining industry has trended down since 2016-17, in line with a long-term downward trend in fatal injuries during the past 100 years. During the past ten years, 'being hit by moving objects' followed by 'vehicle incidents' has been the most common hazard mechanism in fatal injuries.

While the total number of serious injuries, lost time injuries and total recordable injuries has increased from 2019-20, overall a steady decline in overall industry frequency rates for serious injuries, lost time injuries and total recordable injuries has also been observed since 2011-12.

The underground metalliferous sector is an exception where notable increases were observed in frequency rates for serious injuries and lost time injuries since 2017-18.

A breakdown analysis of serious injuries in the metalliferous sector since 2018-19 observed increases for the most injured bodily location of hand, fingers or wrist. In 2020-21, four were fractures, three lacerations and two amputated fingers. The predominant injury mechanism was 'being hit by moving objects'. The breakdown analysis also found increases in head or neck injuries. Of the six head or neck injuries in 2020-21, there were only two associated mechanisms, 'being hit by moving objects' and 'falls of a person'. Due to multiple contributing factors as well as the relatively small number of these injuries, it is not possible to draw any reliable conclusions about the cause of any of the changes identified. Nevertheless, the Regulator continues to closely monitor serious injuries across all sectors.

An overall downward trend was observed in the incident notification frequency rate for the combined sectors during the ten-year reporting period. However, since 2017-18 the extractives sector has experienced an ongoing increasing trend in incident notification frequency rates. Increased notifications have contributed to this increase whereby the number of incidents reported in 2020-21 is double the number reported ten years ago.

In 2020-21, the breakdown analysis by type of incident and operation type presents a unique notification profile. Dangerous incidents have made up the highest proportion of incidents notified in the metalliferous and extractives sectors since 2016-17, while potentially dangerous incidents and other high potential incidents were predominant in surface coal and underground coal operations respectively. Multiple factors including legislative framework, inherent hazards and characteristics of each sector and commodity produced has contributed to these observed differences across each of the operation types.

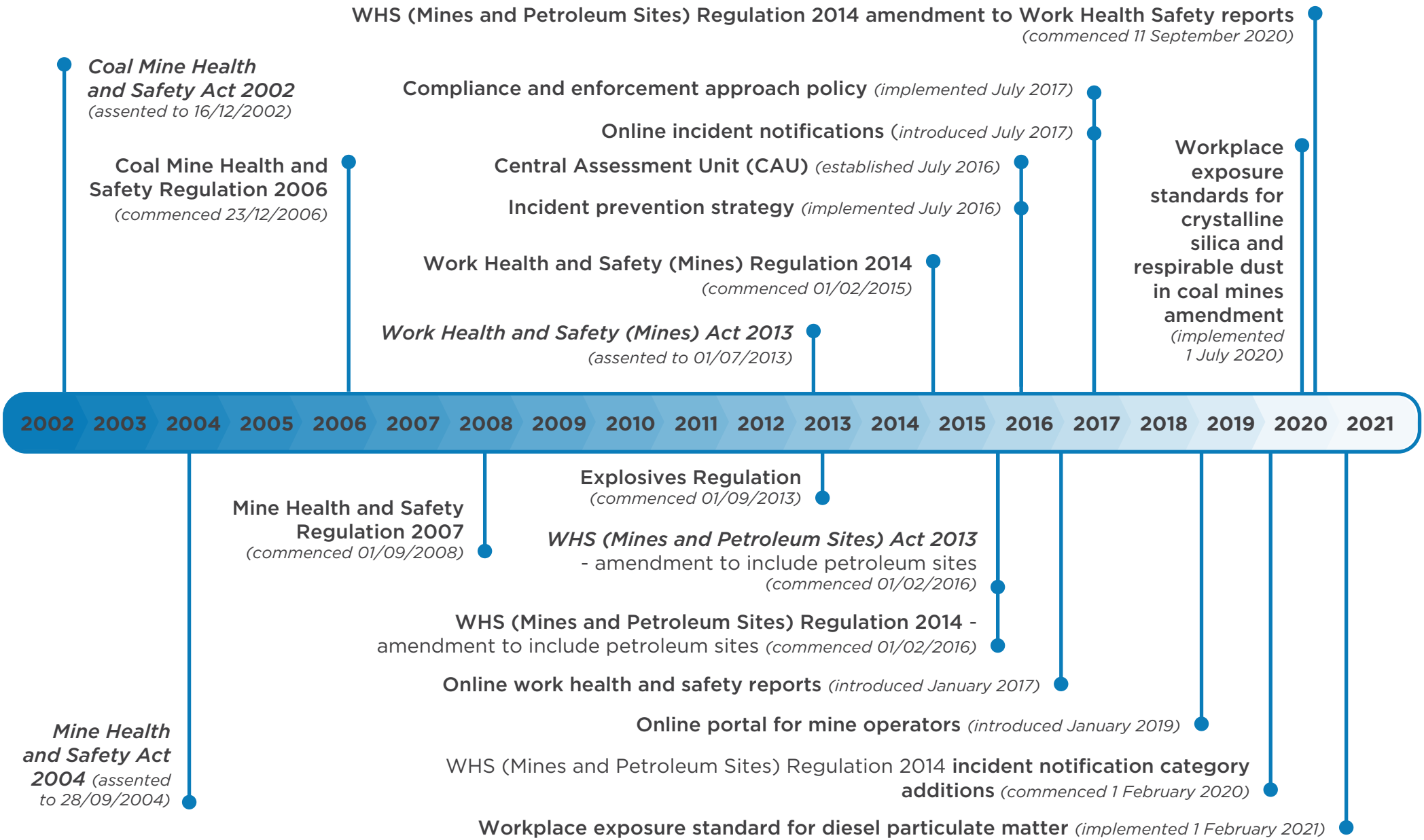
Since 2011-12 the proportion of mines notifying safety incidents has remained steady. On average, 6% of mines notified the Regulator of an incident every year during the ten-year reporting period, representing 75% in the coal sector, 27% in the metalliferous sector and 3% in the extractives sector.

Explanatory notes

Health and safety performance data from the NSW mining sector
This report presents data on injuries (fatal, serious, lost time and total recordable injuries), notified incidents, notices issued to mining operators and hours worked. All information presented was either reported to the NSW Resources Regulator by the NSW mining industry through work health and safety reporting and incident notifications, or was information obtained from compliance and enforcement activities undertaken by the Regulator. See injury classification definitions in Appendix 1.

Key regulatory changes timeline
Amendments to mine safety legislation in NSW and refined compliance and enforcement practices by the Regulator have impacted data in this report. The timeline in Figure 1 highlights key dates since 2006, including those in relation to notified incidents, injuries, illnesses and work health and safety reporting. While at times it may be difficult to distinguish between real changes in occurrences of an event, the implication of certain changes to the legislation or the implementation of certain strategies are clear.

FIGURE 1: **KEY REGULATORY CHANGES IN NSW MINING 2002 - 2021**



Changes to work health and safety reporting requirements

Clause 130 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 requires mine operators to provide a work health and safety report to the Regulator each year, with lost time, restricted duty and medical treatment injury information as well as hours worked.

Operators of petroleum sites, underground small gemstone mines, opal mines and tourist mines are not required to submit a work health and safety report to the Regulator.

From June 2020, mine operators of the following classes of mines are also exempt from having to submit work health and safety reports to the Regulator:

- non-coal mines with total worker hours of less than 10,000 hours per year
- mines and exploration sites where the only activity is exploration.

Further information on the changes to work health and safety reporting can be found on our website.

In this report, historical data has been revised to align with these changes and a separate section for exploration (excluding petroleum and geothermal sites) has been included.

These changes have resulted in inconsistencies with previously published reports where data on exploration sites was included in analysis of other sectors, such as frequency rates calculated for the coal, metalliferous and extractives sectors.

Rate-based frequency measures are calculated using work health and safety reports

The information provided by mine and petroleum site operators in work health and safety reports is used to generate frequency rates and total recordable injuries.

Frequency rates (per million hours worked) have been calculated for each injury and incident notification measure. Rates were based on hours worked data submitted by the coal, metalliferous and extractives sectors as part of work health and safety reporting.

Frequency rates are not available for the petroleum and geothermal, opal and exploration sectors.

Rates for injury measures were calculated using a rolling five-year average rate. This smoothing technique shows the value for the past five years combined, enabling a long-term trend to be produced directly from raw data. This is particularly useful where values may vary widely from year to year. Annual rates were calculated for incident notification data. See Appendix 3 for detailed sector level data and Appendix 4 for data for the other sectors including petroleum and geothermal sector, opal sector and exploration sector.

It is worth noting that mandatory work health and safety reporting commenced as follows:

- coal sector – 1 July 2007
- metalliferous and extractives sectors – 1 October 2008
- coal exploration sites – 1 February 2015.

Until 1 July 2007, hours worked and lost time injury data for the coal sector were sourced from Coal Services Pty Ltd. Until 1 October 2008, metalliferous and extractives hours worked and lost time injuries were compiled from several sources and included some estimation.

Data extraction

This report covers ten financial years from 2011-12 to 2020-21. The rolling five-year average rate calculation was based on 15 years of data from 2006-07 to 2020-21. The data in this report was extracted from the Regulator's compliance database on 17 September 2021. All data is subject to continuous improvement due to internal audit and validation processes and updates from external sources. Incorrectly classified information from past reporting periods is sometimes found and reclassified in source databases. The Regulator's reporting employs the best available data at the time of data extraction, which may differ from previously published figures.

Chapter 1.

Industry overview

Industry overview

Key performance measures 2020-21

2
fatal injuries

117
serious injuries

290
lost time injuries

864
total recordable injuries

2,049
notified incidents

2,455
notices issued

In the NSW mining industry in 2020-21:

- There were two work-related **fatalities** – one at an opal mine near Lightning Ridge and another at a quarry near West Wyalong. See the fatal injury spotlight section for further details. The rolling five-year average **fatal injury frequency rate** (FIFR) for the coal, metalliferous and extractives sectors remains steady from 2018-19. Overall, **being hit by a moving object**, accounted for more half of the 17 fatalities occurring during the ten-year period, followed by **vehicle and other incidents**. Of the 17 fatal injuries in the ten-year reporting period, 24% were **head** injuries, almost 20% were **trunk or chest** injuries while more than half affected **multiple or other locations** (Figures 4 – 9).
- A steady downward trend has been observed in the rolling five-year average **serious injury frequency rate** (SIFR) for the combined coal, metalliferous and extractives sectors since 2010-11, although the number of **serious injuries** increased - up 10% from 2019-20 to 117. Coal mines accounted for almost 60% of these serious injuries. Overall increases were observed in serious injuries to the **head or neck** and **hands**, **fingers and wrists** due to being **hit by moving objects**, as well as serious injuries due to **falls, trips and slips of a person** to the **trunk or chest** and **lower limbs**. Serious injuries to upper limbs were predominantly due to a breakdown in **environmental agencies**, with injuries to hands, fingers and wrists due to **mobile plant and transport** more than doubling from 2019-20. Serious injuries to **employees** increased by 26% from 2019-20, with associated increases in injuries to lower limbs, hands, fingers and wrists, and feet, toes and ankles more than doubling. Serious injuries to **contractors** decreased by 10% (Figures 10 – 17).

- There were 290 **lost time injuries** reported in the combined coal, metalliferous and extractives sectors. The combined rolling five-year average **lost time injury frequency rate** (LTIFR) increased slightly in 2020-21, however an overall downward trend was observed over the ten-year reporting period. The LTIFR for the **extractives** sector in 2020-21 was 81% higher than the rate for all sectors combined (Figures 18 – 19).
- There were 864 **total recordable injuries** in the combined coal, metalliferous and extractives sectors, an increase of 5% compared to 2019-20. Since 2012-13 a steady downward trend has been observed in the rolling five-year average **total recordable injury frequency rate** (TRIFR) for the combined coal, metalliferous and extractives sectors (Figures 20 – 21).
- **Notified incidents** decreased by 4% compared to 2019-20, with a steady downward trend observed in the **incident notification frequency rate** (INFR) for the combined coal, metalliferous and extractives sectors over the ten-year reporting period. In 2020-21, the breakdown analysis by type of incident and operation type presents a unique **notification profile**. Multiple factors including legislative framework, inherent hazards and characteristics of each sector and commodity produced contribute to the differences observed across each of the operation types (Figures 22 – 24).
- There were 2,455 **notices issued** to NSW mines, an increase of 28% from 2019-20 — the most notices issued in any year across the ten-year reporting period. More than 60% were improvement notices. The extractives sector received the highest proportion of notices in 2020-21 in line with 2019-20 numbers, while the coal sector received the highest proportion in all previous years of the ten-year reporting period (Figures 25 – 26).

TABLE 1: **NSW COAL, METALLIFEROUS AND EXTRACTIVES COMPARISON OF KEY PERFORMANCE INDICATORS 2019-20 AND 2020-21**

KEY PERFORMANCE INDICATORS	COAL SURFACE		COAL UNDERGROUND		COAL TOTAL		METALLIFEROUS SURFACE		METALLIFEROUS UNDERGROUND		METALLIFEROUS TOTAL		EXTRACTIVES TOTAL		COAL, METALLIFEROUS & EXTRACTIVES TOTAL	
	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021
Active mines	79	76	43	42	122	118	58	47	47	46	105	93	2,534	2,489	2,761	2,700
Million hours worked	33.62	32.27	14.22	13.67	47.84	45.94	6.86	5.77	8.11	8.98	14.97	14.75	4.44	3.98	67.25	64.67
Full time equivalent workers	16,810	16,135	7,109	6,836	23,919	22,971	3,432	2,883	4,054	4,490	7,486	7,373	2,221	1,991	33,626	32,334
Fatal injuries	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	1
Fatal injury 5 year average frequency rate	0.013	0.013	0.000	0.000	0.009	0.009	0.080	0.069	0.049	0.025	0.061	0.043	0.000	0.039	0.019	0.019
Permanent incapacity injuries	0	1	1	1	1	2	0	0	0	0	0	0	0	0	1	2
Lost time injuries	78	90	119	115	197	205	12	13	38	30	50	43	26	42	273	290
Lost time injury 5 year average frequency rate	2.31	2.47	8.43	8.54	4.25	4.34	1.92	1.94	3.46	3.36	2.87	2.77	7.96	7.87	4.27	4.28
Restricted duty injuries	46	70	215	210	261	280	12	9	77	89	89	98	25	28	375	406
Medical treatment injuries	32	37	44	32	76	69	10	10	30	30	40	47	56	49	172	165
Total recordable injuries	156	198	379	358	535	556	35	32	145	149	180	188	107	120	822	864
Total recordable injury 5 year average frequency rate	5.89	5.84	29.68	28.85	13.41	12.94	7.76	6.09	18.31	17.85	14.30	13.03	25.72	25.80	14.62	13.98
Serious injuries	25	27	45	42	70	69	2	6	18	23	20	29	12	17	102	115
Serious injury 5 year average frequency rate	0.71	0.72	3.08	3.14	1.46	1.47	0.52	0.55	1.99	2.02	1.43	1.40	2.16	2.14	1.51	1.51
Incident notifications	592	658	1,076	891	1,668	1,549	48	63	248	263	296	326	167	167	2,131	2,042
Incident notification annual frequency rate	17.61	20.39	75.68	65.17	34.87	33.72	6.99	10.93	30.59	29.29	19.77	22.11	37.59	41.95	31.69	31.58
% of mines that notified an incident	59%	59%	65%	57%	61%	58%	17%	17%	36%	39%	26%	28%	3%	4%	6%	7%
Notices issued	298	283	265	473	563	756	99	122	321	389	420	511	748	1,049	1,731	2,316

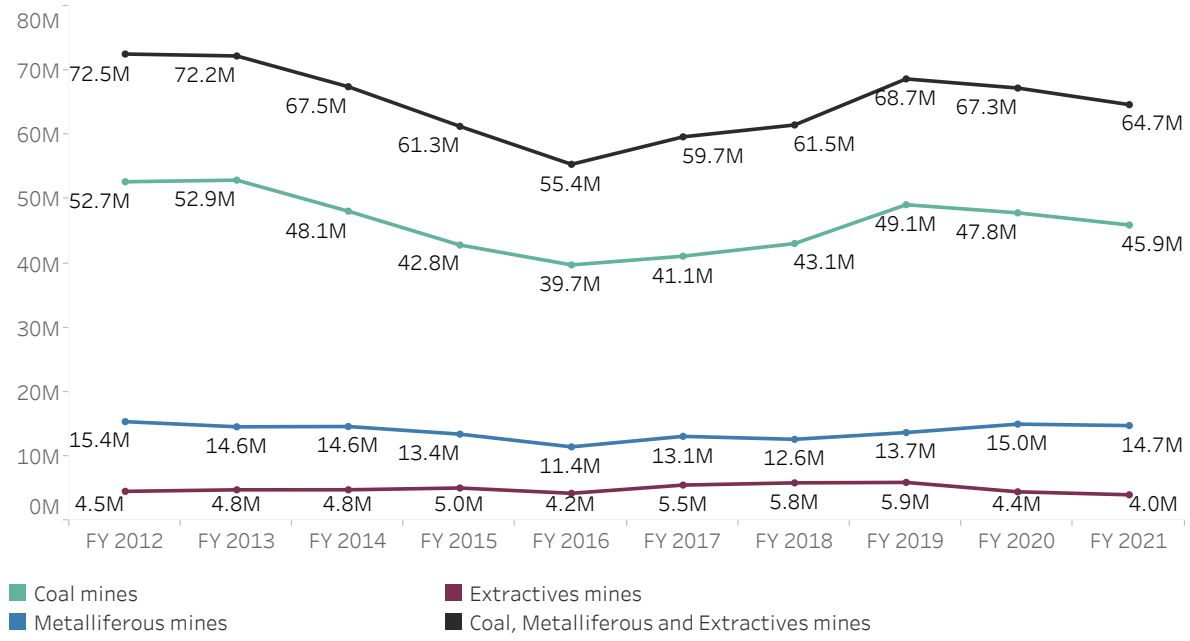
Hours worked

In 2020-21 hours worked in the combined coal, metalliferous and extractives sectors slightly decreased compared to 2019-20 from 67.3 to 64.7 million hours. In 2020-21 just over 70% of the hours were worked in the coal sector, 23% in the metalliferous sector and 6% in the extractives sector.

Over the ten-year reporting period the total number of hours worked has decreased by 11% from 72.5 million hours in 2011-12 to 64.7 million hours in 2020-21. This was driven primarily by variations in hours worked in the coal sector.

Exploration, petroleum and geothermal sites, underground small gemstone mines, opal mines and tourist mines are not represented in NSW hours worked figures because mining operators in these sectors are not required to submit work health and safety reports to the Regulator. See Explanatory notes for more information about work health and safety reporting.

FIGURE 2: **COAL, METALLIFEROUS AND EXTRACTIVES HOURS WORKED BY SECTOR 2011-12 TO 2020-21**



Fatal injuries

Fatal injuries 2020-21

In 2020-21 there were two work-related fatalities at mines in NSW.

Spotlight on a work-related death

DEATH OF MINER AT OPAL MINE
14 OCTOBER 2020
RELATED HAZARD: SHAFTS AND WINDING SYSTEMS

On 14 October 2020, an opal miner suffered fatal injuries while working at an underground opal mine. The miner was investigating a fault with the mine's material hoist on the surface of the mine. A short time later the miner was found unresponsive in the sump of the hoist shaft, approximately seven metres beneath the surface. The injuries sustained by the miner are consistent with a fall from height. The cause of the fall has not been determined.

See Investigation Information release IRR20-12 for more information.

Spotlight on a work-related death

WORKER STRUCK BY LIGHT VEHICLE AT QUARRY NEAR WEST WYALONG
24 MAY 2021
RELATED HAZARD: VEHICLE OR PLANT INCIDENT

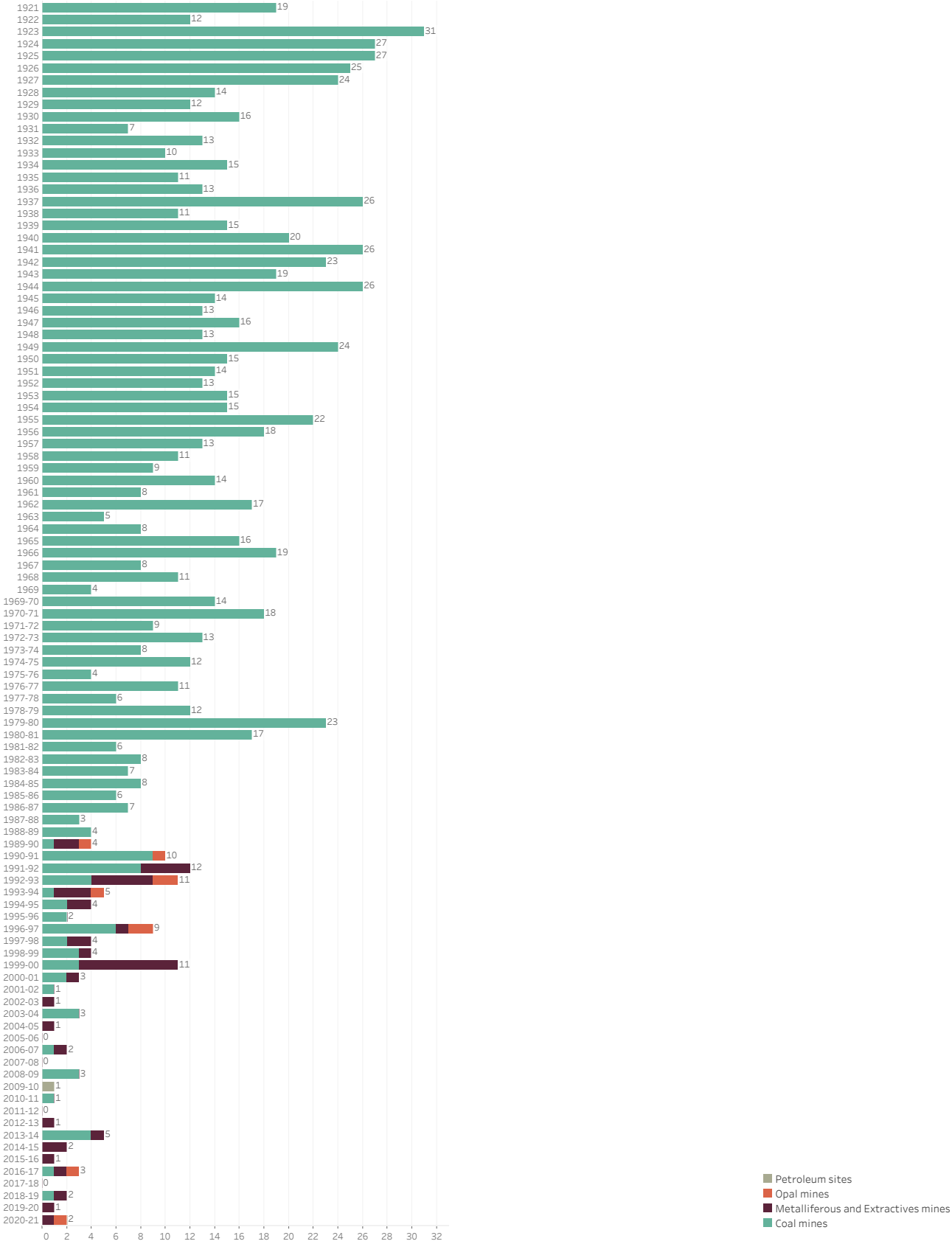
On 24 May 2021, a worker suffered fatal injuries after being struck by a light vehicle. The worker was kneeling down to retrieve dropped items from the ground, when the driver of the light vehicle performed a left-hand U-turn. The driver did not see the worker and the front passenger side of the vehicle struck the worker.

See Investigation Information release IRR21-07 for more information.

Fatal injuries in NSW mining, last 100 years

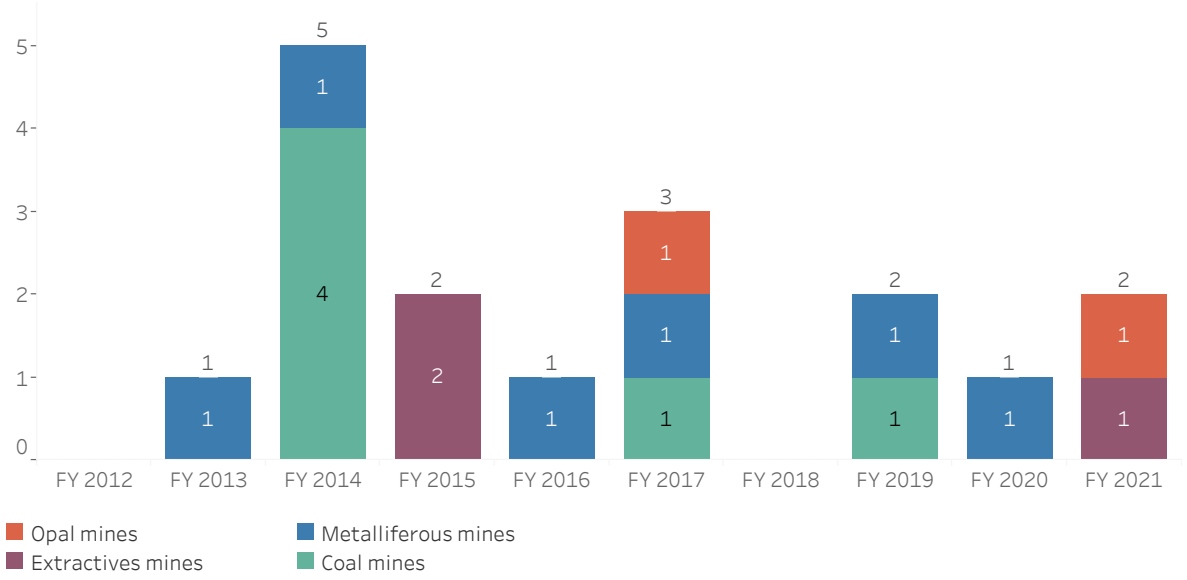
Note: Fatal injury data for all sectors became available from 1989.

FIGURE 3: **FATAL INJURIES BY SECTOR 1920 TO FY 2020-21**



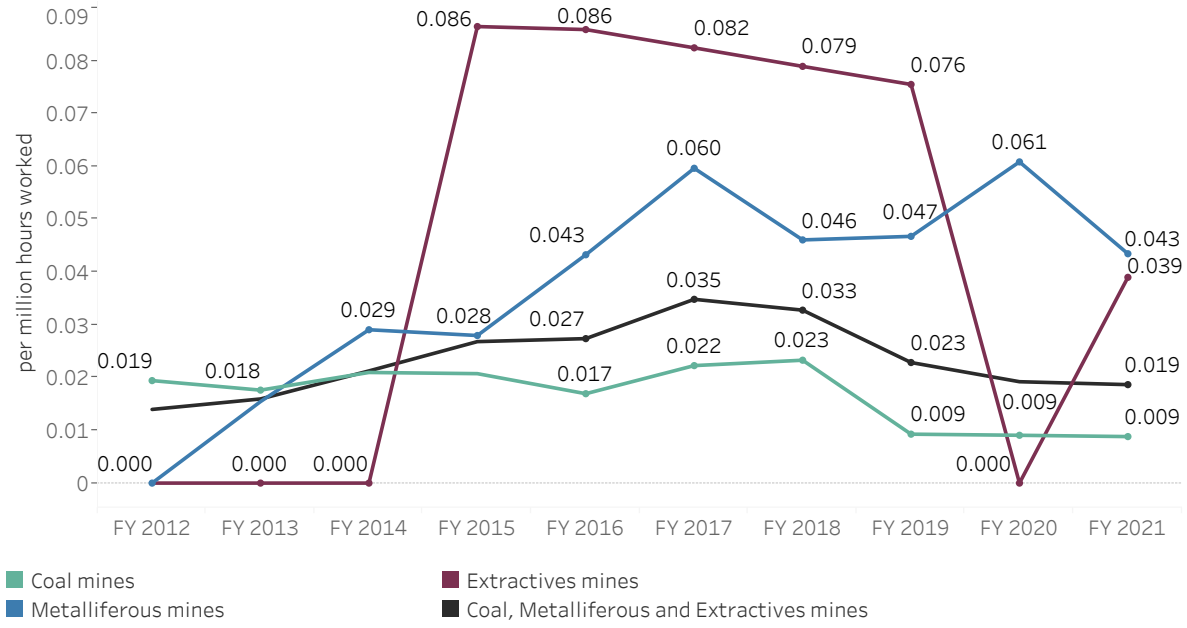
Fatal injuries by sector

FIGURE 4: **FATAL INJURIES BY SECTOR 2011-12 TO 2020-21**



Fatal injury frequency rates

FIGURE 5: **COAL, METALLIFEROUS AND EXTRACTIVES ROLLING FIVE-YEAR FIFR 2011-12 TO 2020-21**



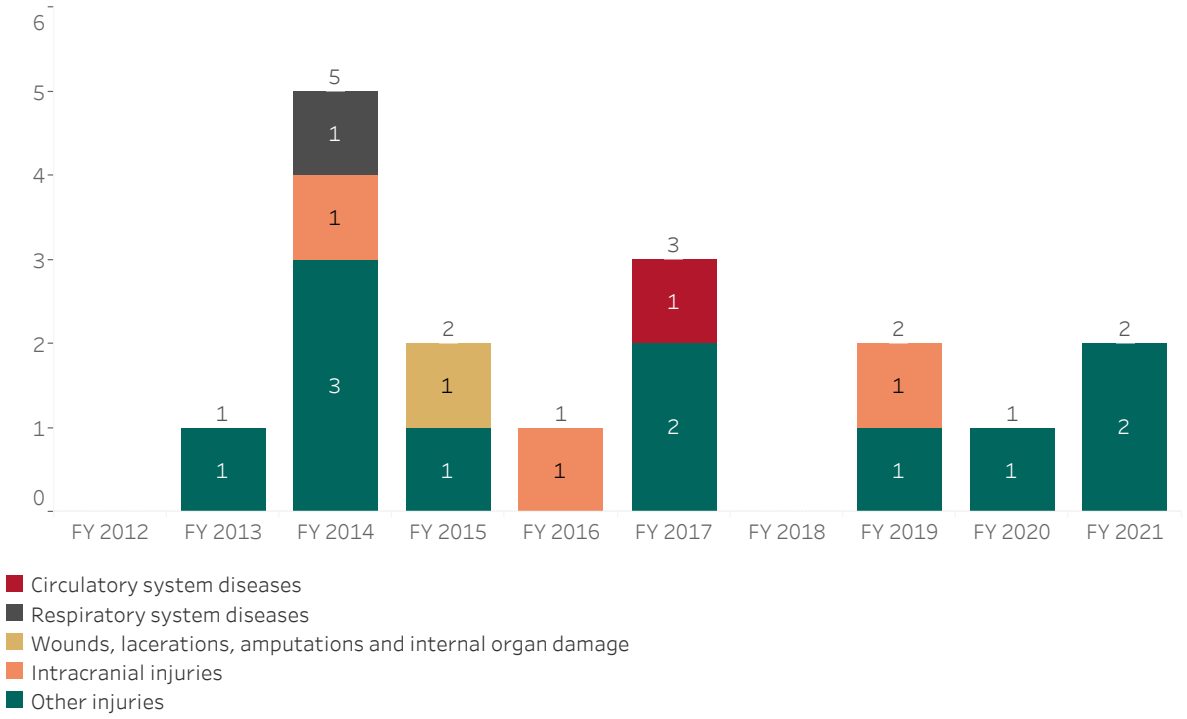
Fatal injury hazard mechanism

FIGURE 6: **FATAL INJURIES BY HAZARD MECHANISM 2011-12 TO 2020-21**

Fatal injury nature of injury

Since 2011-12, the nature of fatal injuries was most often classified as ‘other injuries’ (11) and ‘intracranial injuries’ (3). Note: ‘Other injuries’ includes effects of weather, exposure, air pressure and other external causes not elsewhere classified, electrocution, shock from electric current and multiple injuries.

FIGURE 7: **FATAL INJURIES BY NATURE OF INJURY 2011-12 TO 2020-21**



Fatal injury bodily location

FIGURE 8: **FATAL INJURIES BY BODILY LOCATION 2011-12 TO 2020-21**

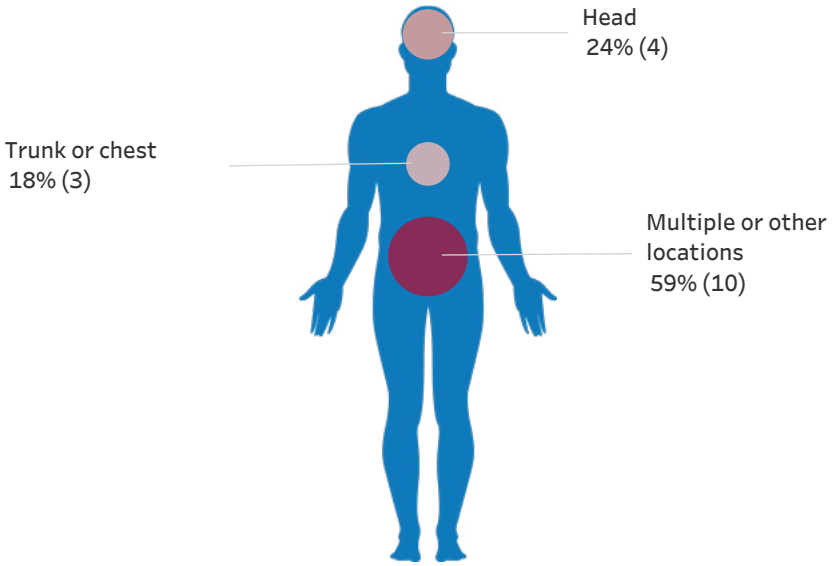
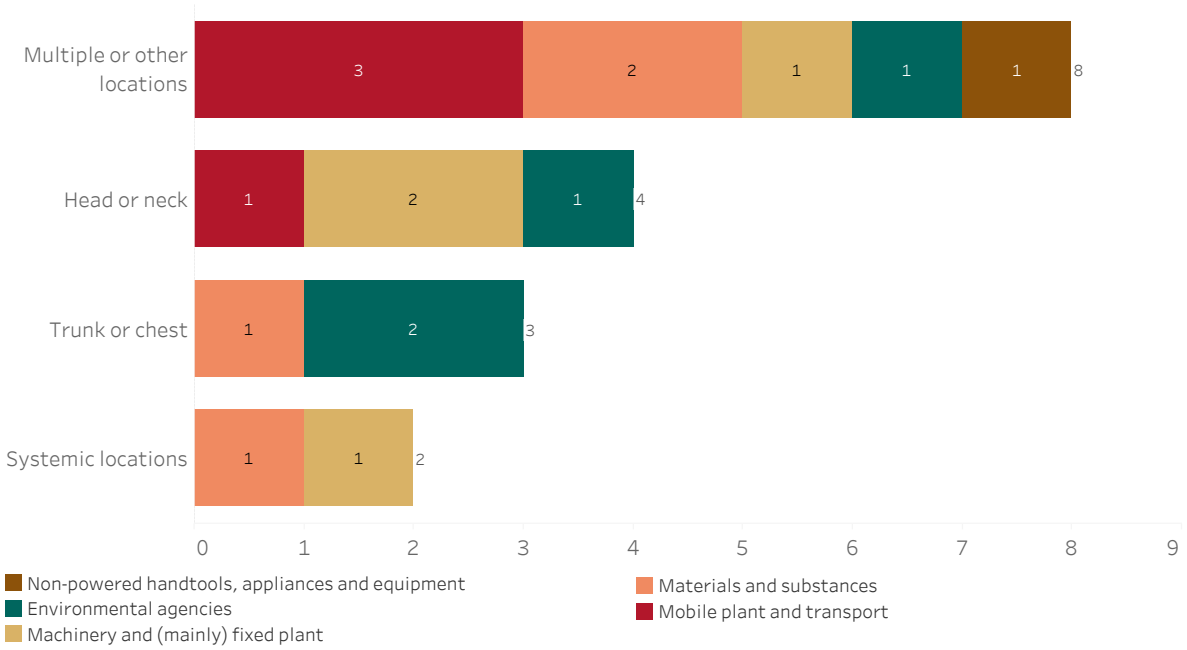


FIGURE 9: **BODILY LOCATION OF FATAL INJURIES BY BREAKDOWN AGENCY 2011-12 TO 2020-21**



Serious injuries

Previously published Mine Safety Performance reports presented serious injury details based on definitions applicable to the legislation that was current at the time.

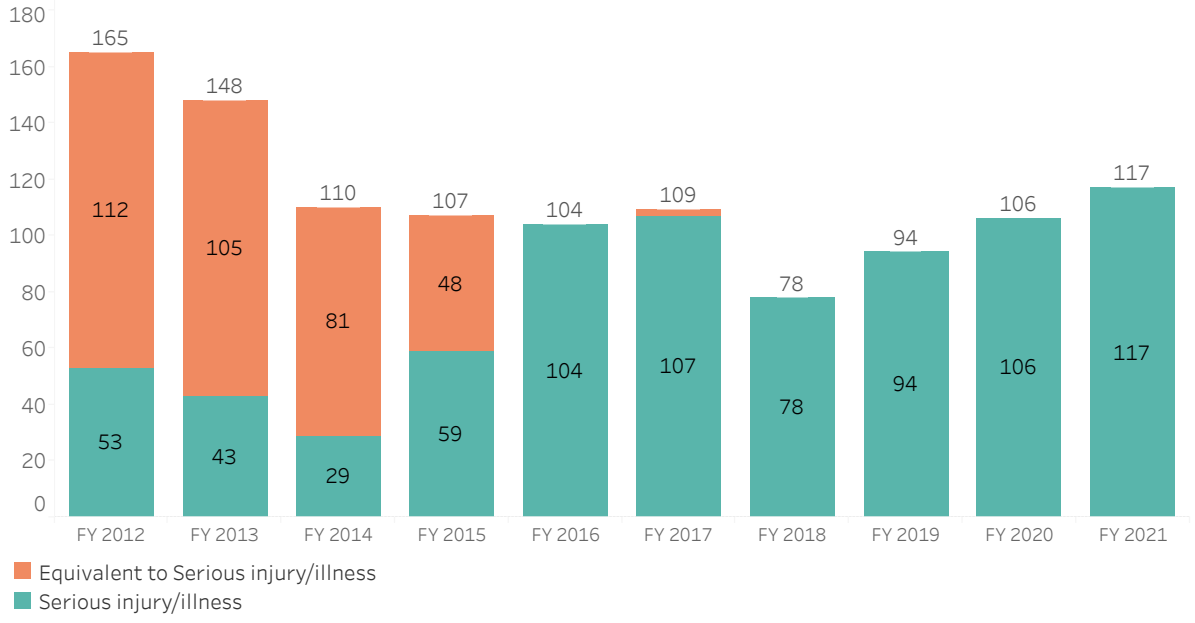
With the commencement of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 in February 2015, the definition of a serious injury was expanded to include additional injury and illness types, as well as any injury or illness, irrespective of its nature, that results in immediate treatment as an in-patient in a hospital.

To provide equivalence in serious injuries across the serious injury definitions in the previous legislation and current legislation, the serious injuries in this report consist of:

- injuries classified with an injury classification of injury, serious, work-related or illness, serious, work-related
- any non-serious injuries with outcomes that resulted in-hospital inpatient admission and/or loss of consciousness.

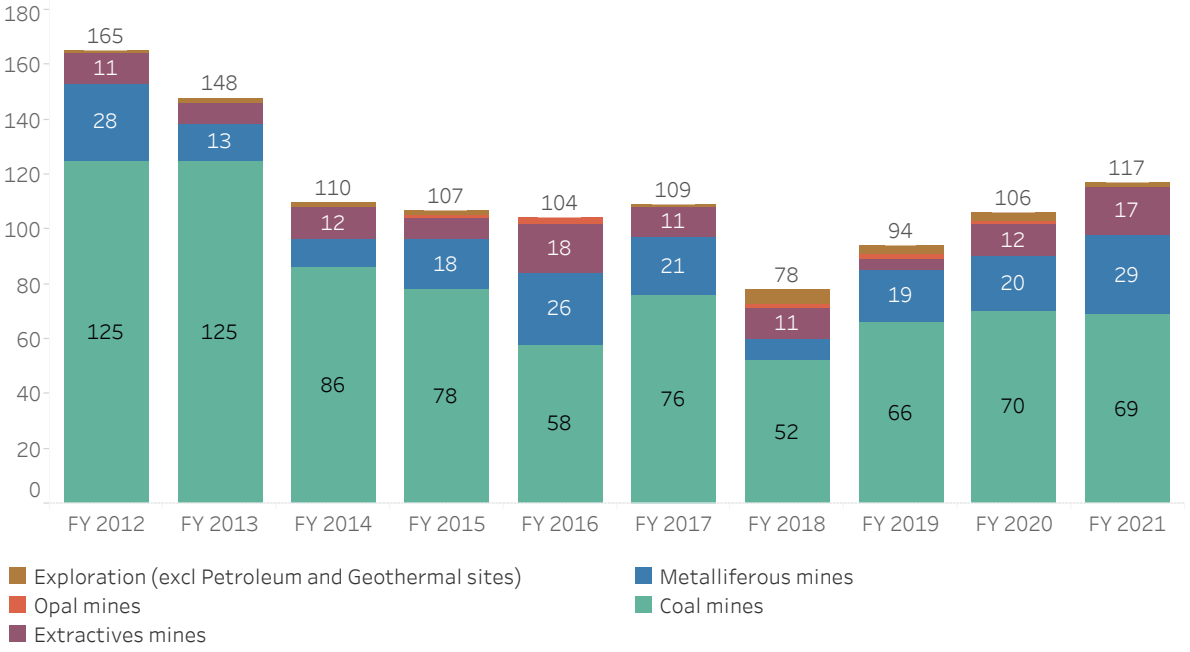
Note that it is recognised that while the injuries classified under the previous legislation were recorded with hospital inpatient admission clauses, some of these may have only resulted in hospital treatment (e.g. for sutures), rather than inpatient admission.

FIGURE 10: **SERIOUS INJURIES WITH RE-CLASSIFIED HISTORICAL SERIOUS INJURIES 2011-12 TO 2020-21**



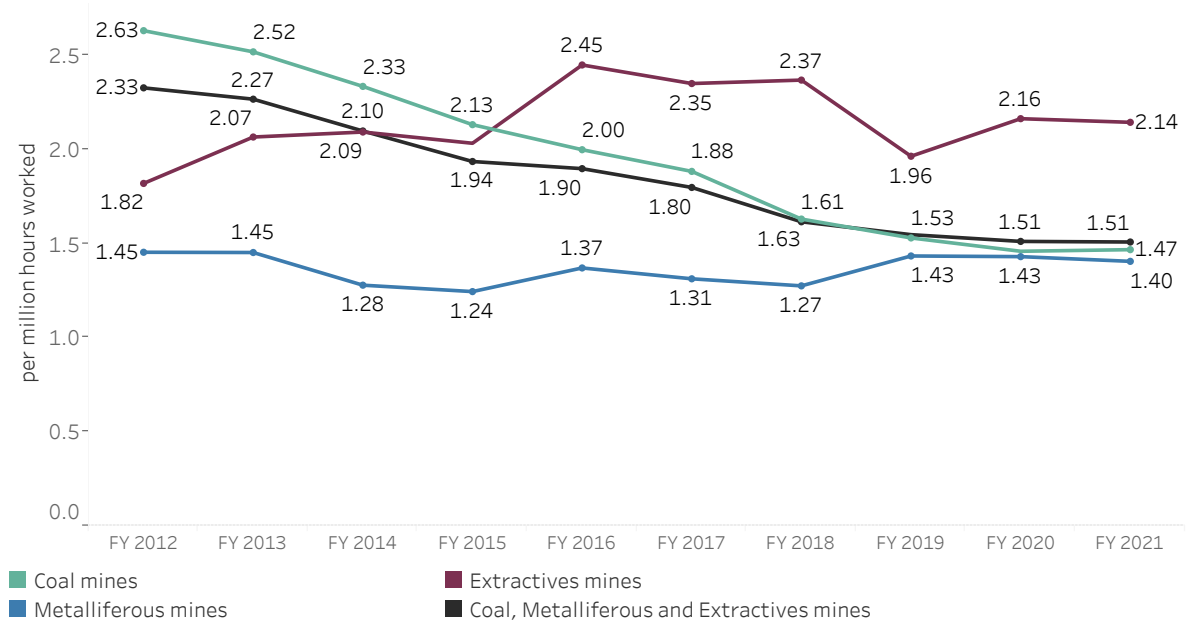
Serious injuries by sector

FIGURE 11: **SERIOUS INJURIES BY SECTOR 2011-12 TO 2020-21**



Serious injury frequency rates

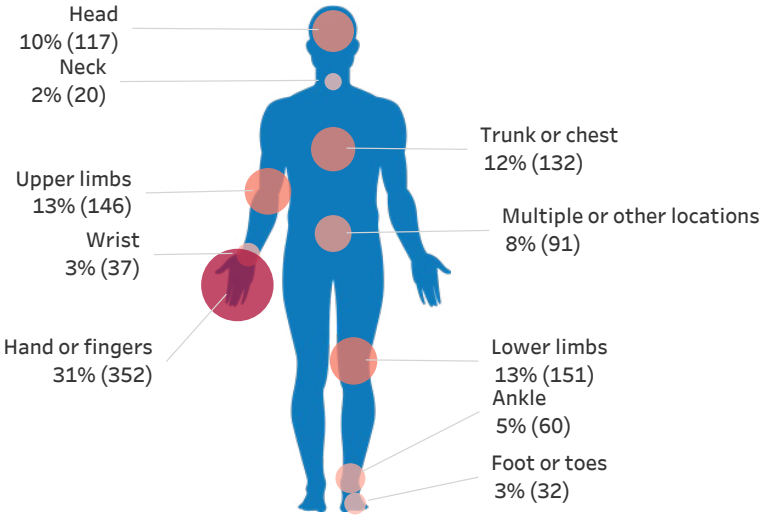
FIGURE 12: **COAL, METALLIFEROUS AND EXTRACTIVES ROLLING FIVE-YEAR SIFR 2011-12 TO 2020-21**



Serious injuries by bodily location

Bodily location has been used as a way to examine change in the severity and nature of serious injuries from 2017-18, by mechanism, breakdown agency and employment type.

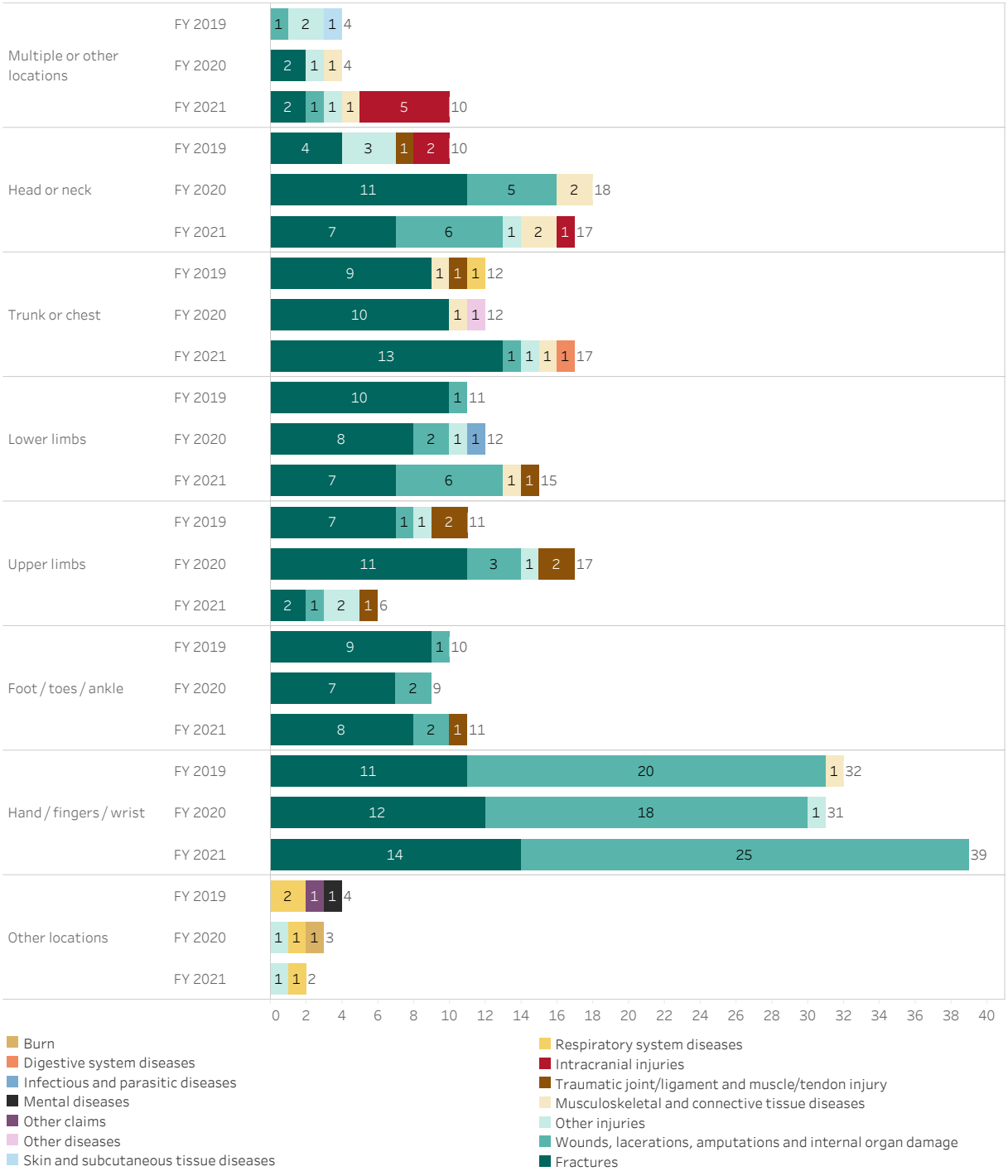
FIGURE 13: **BODILY LOCATION OF SERIOUS INJURIES 2011-12 TO 2020-21**



Serious injury nature of injury

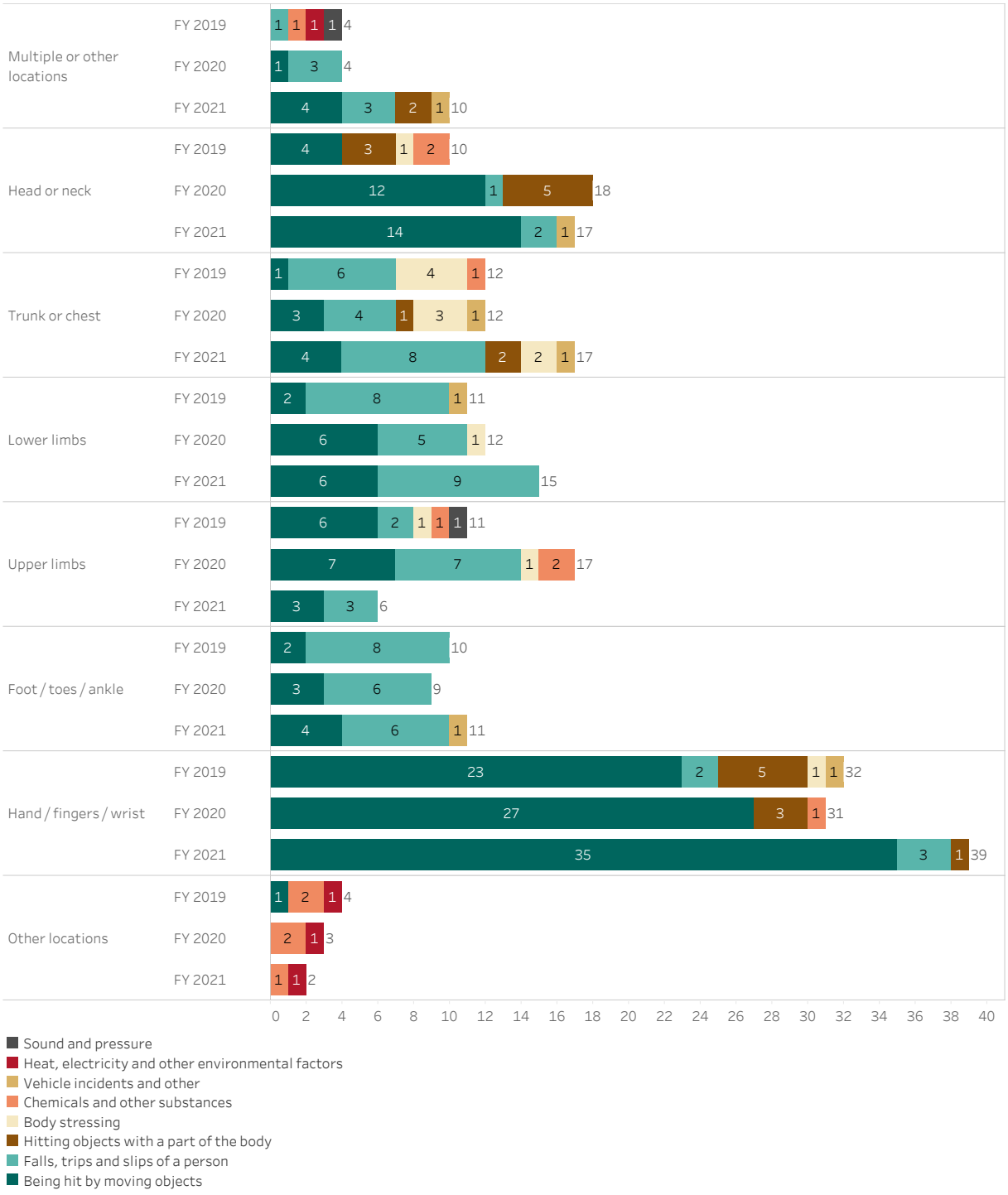
Note: 'Other injuries' includes effects of weather, exposure, air pressure and other external causes not elsewhere classified, electrocution, shock from electric current and multiple injuries.

FIGURE 14: **BODILY LOCATION OF SERIOUS INJURIES 2018-19 TO 2020-21**



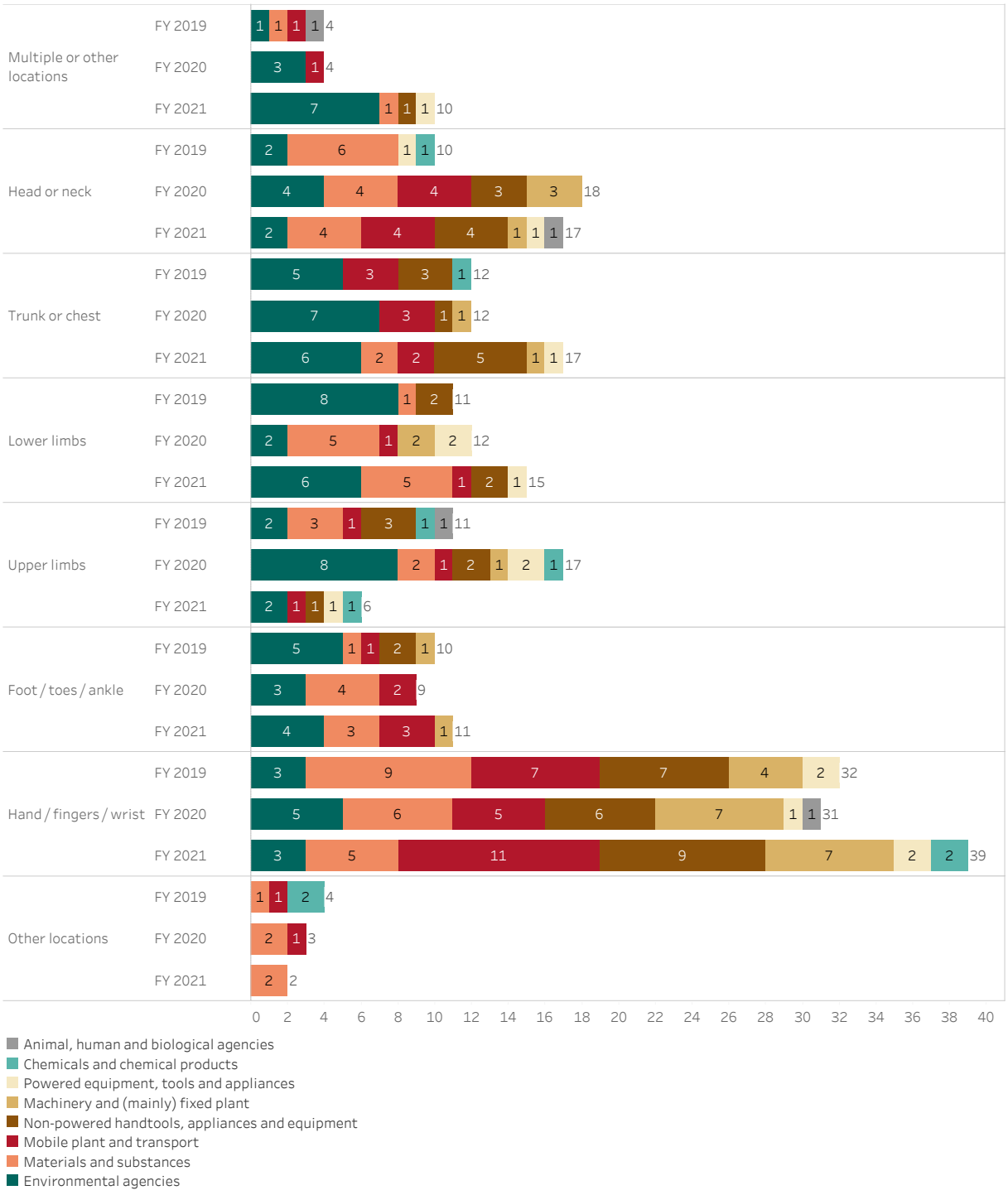
MECHANISM

FIGURE 15: **BODILY LOCATION OF SERIOUS INJURIES BY MECHANISM 2018-19 TO 2020-21**



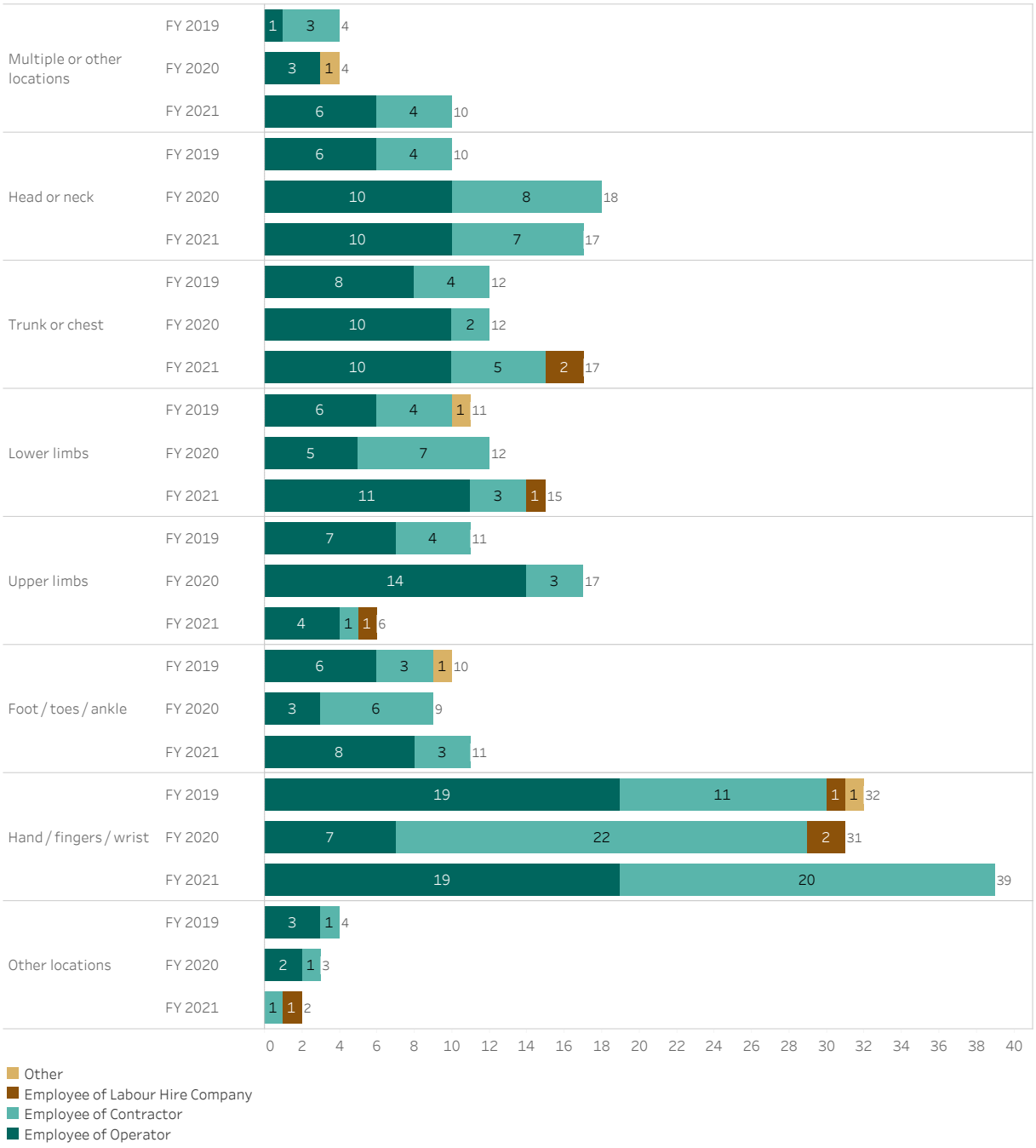
BREAKDOWN AGENCY

FIGURE 16: **BODILY LOCATION OF SERIOUS INJURIES BY BREAKDOWN AGENCY 2018-19 TO 2020-21**



EMPLOYMENT TYPE

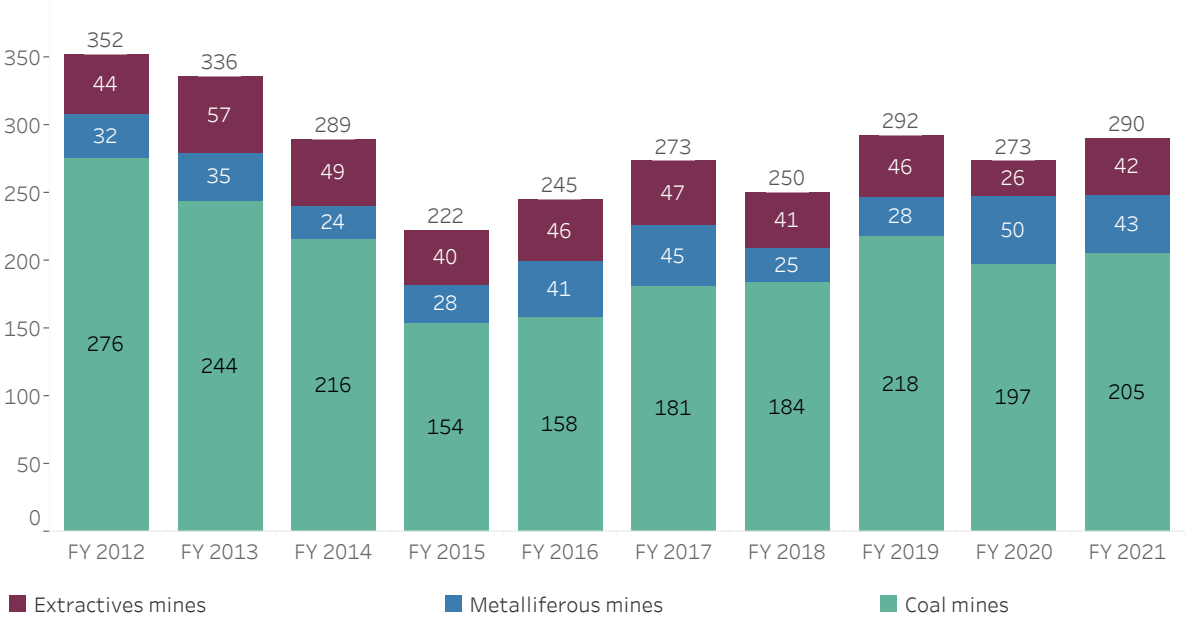
FIGURE 17: **BODILY LOCATION OF SERIOUS INJURIES BY EMPLOYMENT TYPE 2018-19 TO 2020-21**



Lost time injuries

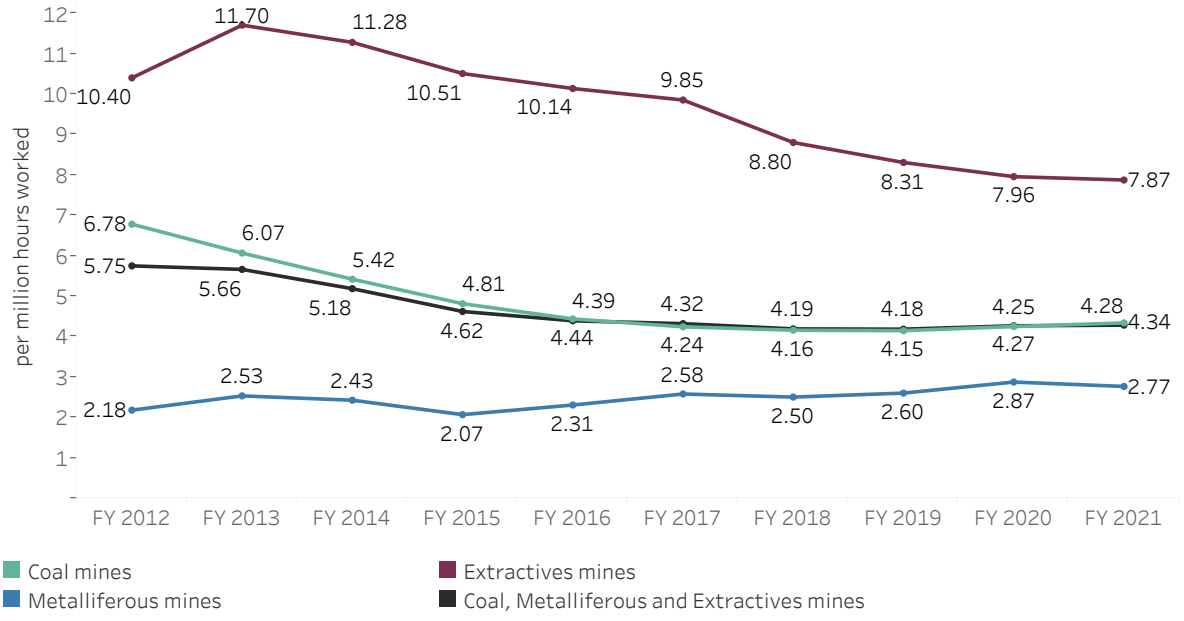
Lost time injuries by sector

FIGURE 18: **COAL, METALLIFEROUS AND EXTRACTIVES LOST TIME INJURIES BY SECTOR 2011-12 TO 2020-21**



Lost time injury frequency rates

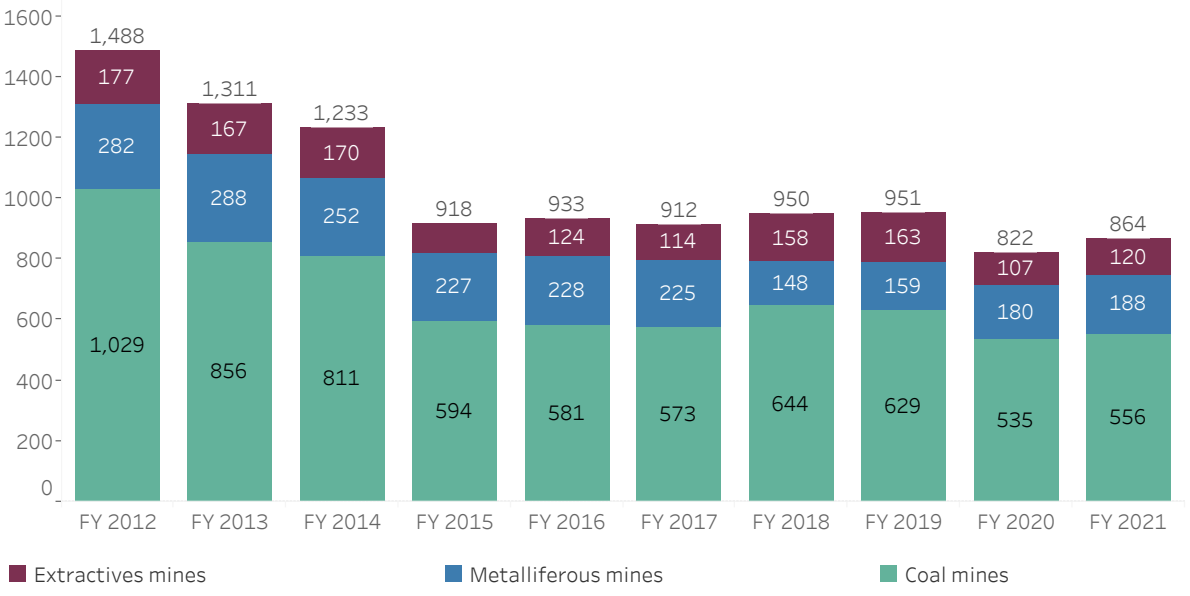
FIGURE 19: **COAL, METALLIFEROUS AND EXTRACTIVES ROLLING FIVE-YEAR LTIFR 2011-12 TO 2020-21**



Total recordable injuries

Total recordable injuries by sector

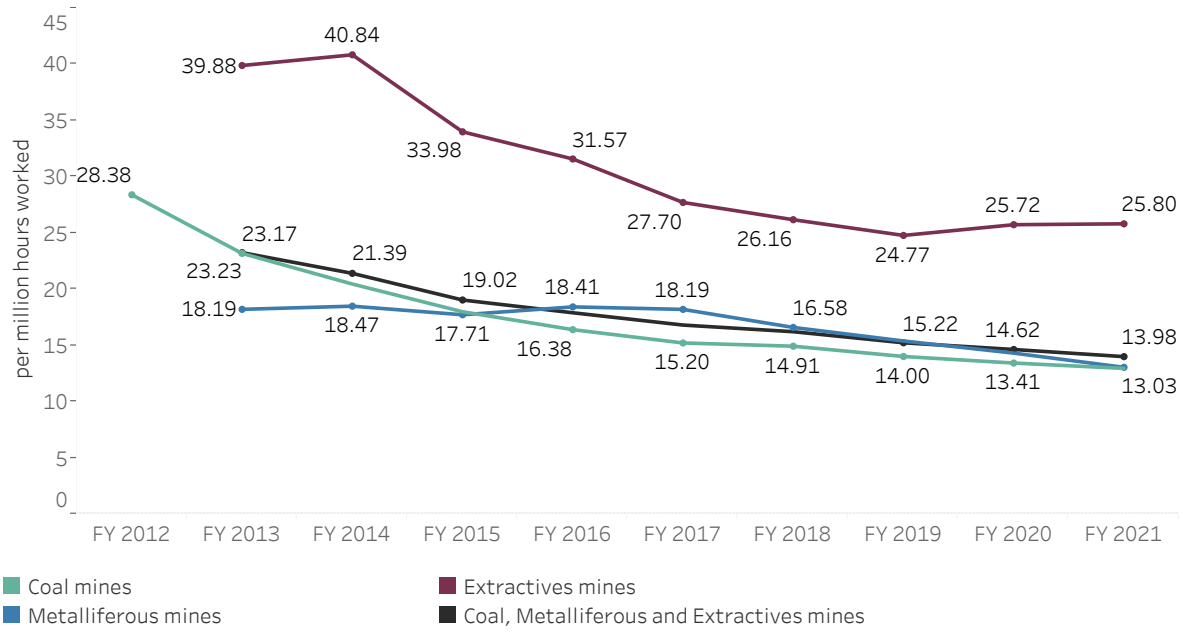
FIGURE 20: **COAL, METALLIFEROUS AND EXTRACTIVES TOTAL RECORDABLE INJURIES 2011-12 TO 2020-21**



Total recordable injury frequency rates

Note: A rolling five-year average TRIFR frequency rate was unable to be calculated for the whole ten-year reporting period as this information was only included in work health and safety reporting requirements for the coal sector from the beginning of 2007-08 and for the metalliferous and extractives sectors from the second quarter of 2008-09.

FIGURE 21: **COAL, METALLIFEROUS AND EXTRACTIVES ROLLING FIVE-YEAR AVERAGE TRIFR 2011-12 TO 2020-21**

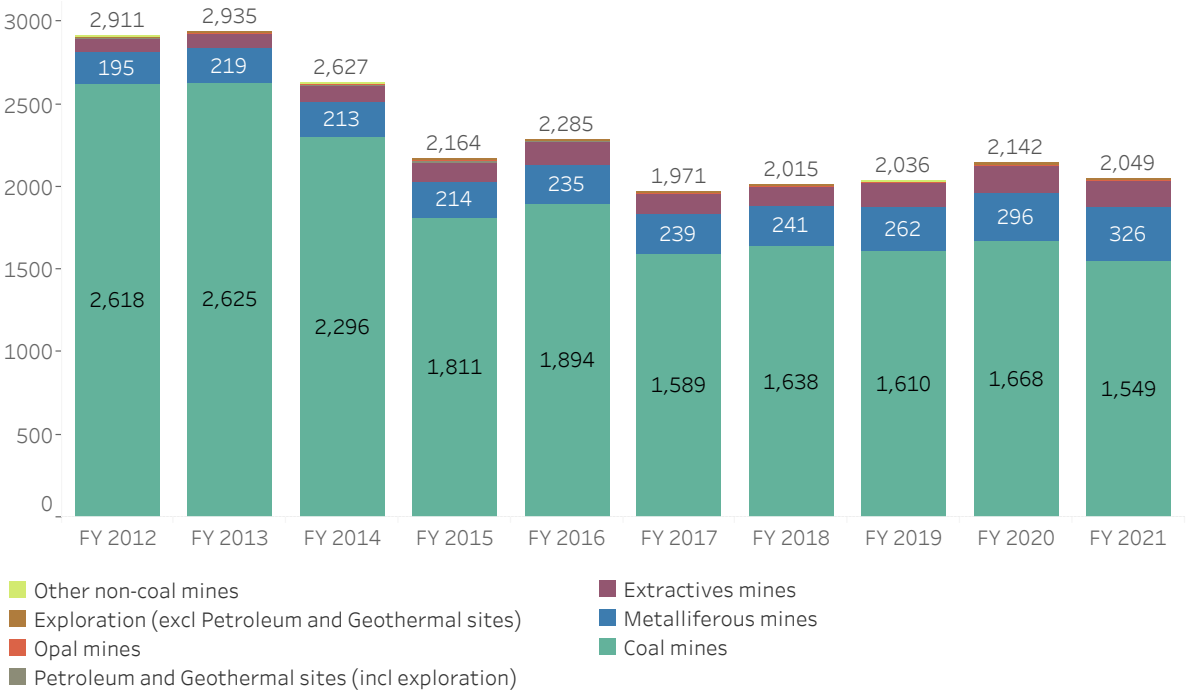


Notified incidents

Notified incidents by sector

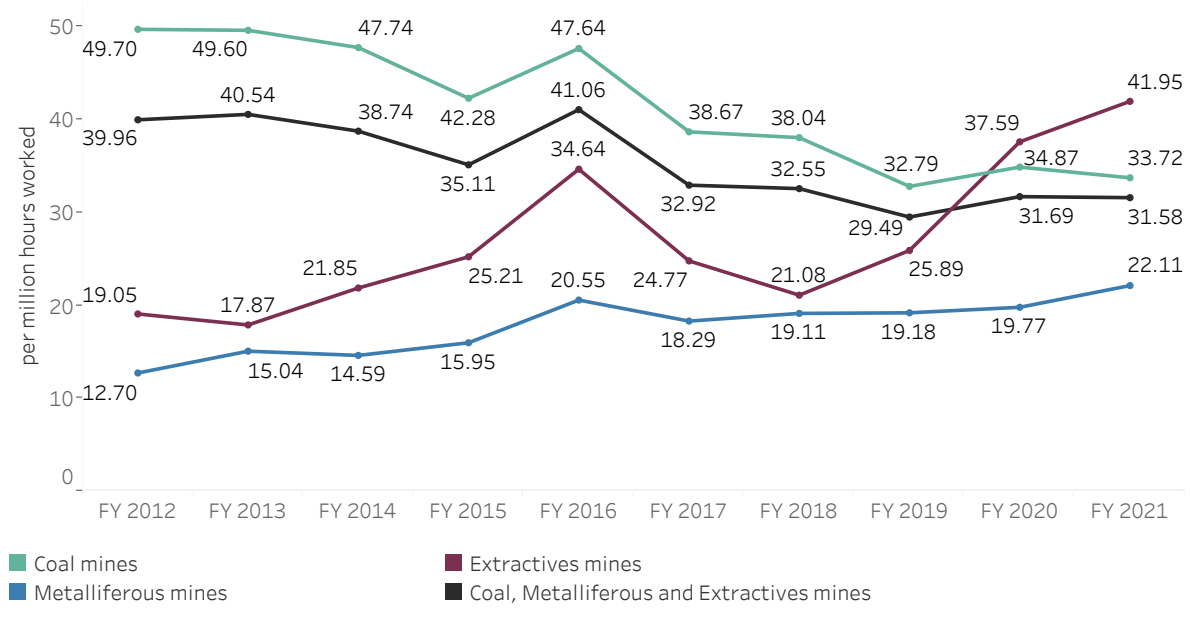
Note: Any incident notification that included multiple gas exceedances has been included as individual incident notifications in this report. See Appendix 3 for details of notified incidents by sector.

FIGURE 22: **NOTIFIED INCIDENTS BY SECTOR 2011-12 TO 2020-21**



Incident notification frequency rates

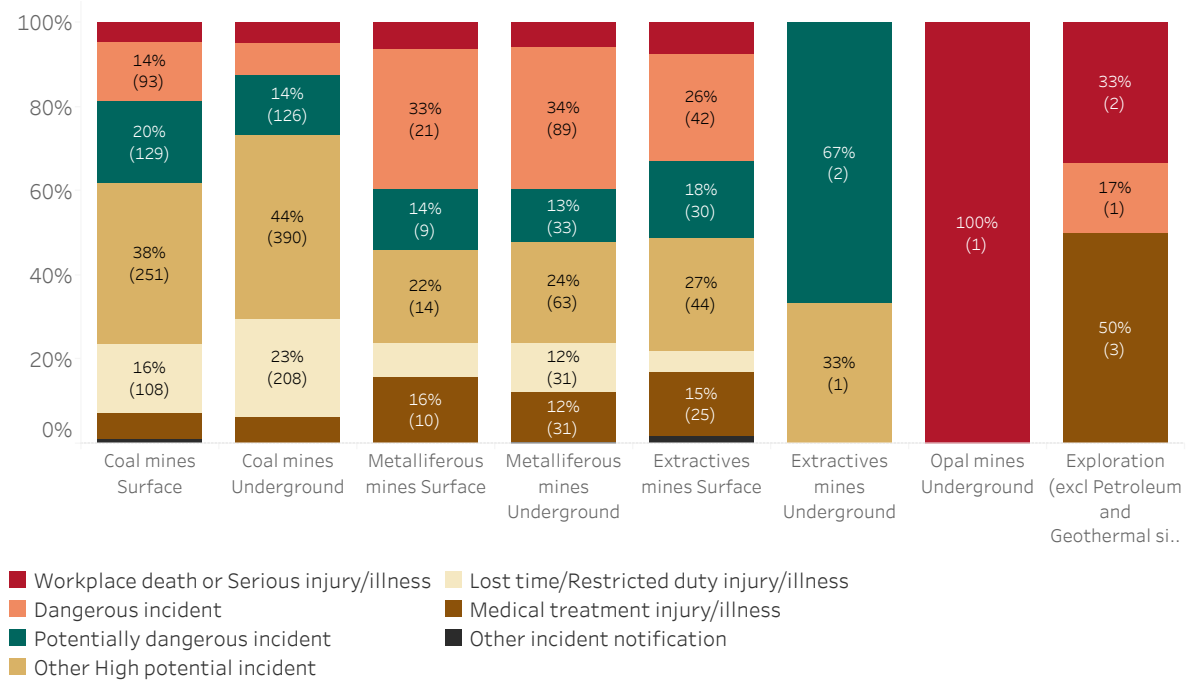
FIGURE 23: **COAL, METALLIFEROUS AND EXTRACTIVES SECTOR INFR 2011-12 TO 2020-21**



Incident notification reporting trends

INCIDENT NOTIFICATION PROFILE

FIGURE 24: **INCIDENT NOTIFICATION PROFILE BY SECTOR AND OPERATION TYPE 2020-21**



PROPORTION OF MINES NOTIFYING INCIDENTS

Since 2011-12 the proportion of mines notifying incidents has remained steady. On average, 6% of mines notified the Regulator of an incident every year during the ten-year reporting period.

The table provided below excludes the exploration sector and the numbers will be different to those previously reported due to changes in work health and safety reporting requirements in June 2020 as outlined in the Explanatory notes.

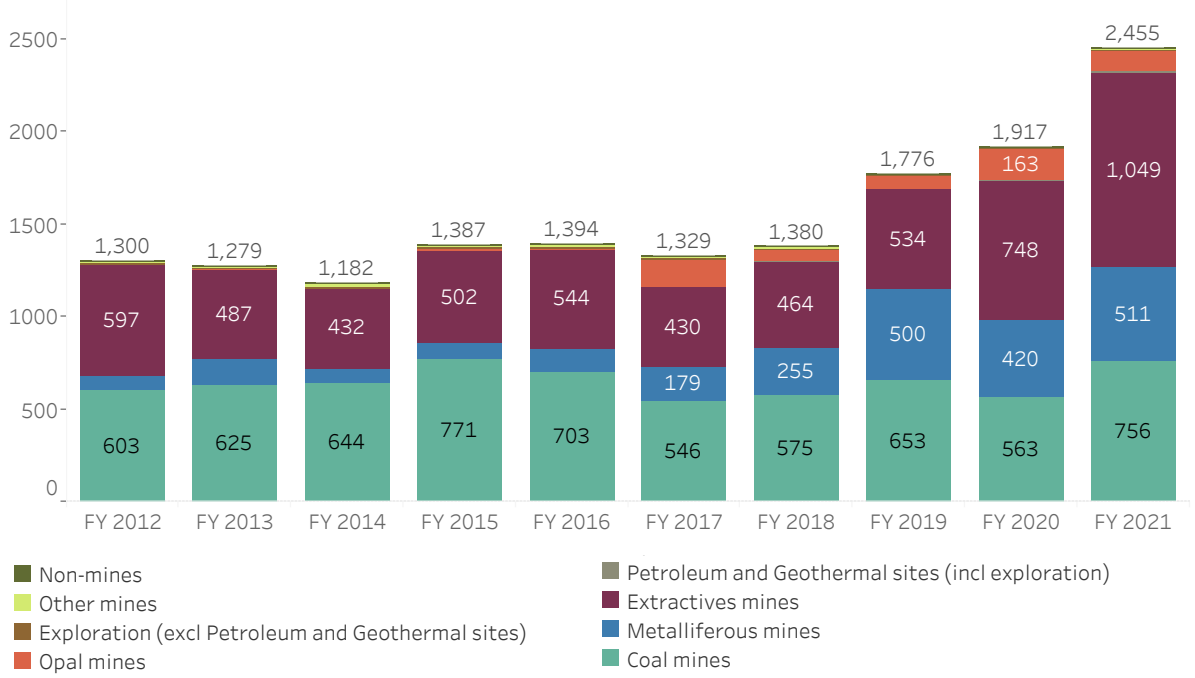
TABLE 2: **PROPORTION OF COAL, METALLIFEROUS AND EXTRACTIVES MINES THAT NOTIFIED AN INCIDENT**

MEASURE	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total notified incidents	2,899	2,929	2,613	2,152	2,274	1,964	2,002	2,025	2,131	2,042
Number of active mines	2,470	2,554	2,583	2,644	2,776	2,744	2,771	2,740	2,761	2,700
Number of mines that notified an incident	170	151	165	165	173	165	174	173	178	186
% of mines, excl exploration, that notified an incident	7%	6%	6%	6%	6%	6%	6%	6%	6%	7%

Notices issued

Notices issued by sector

FIGURE 25: **NOTICES ISSUED BY SECTOR 2011-12 TO 2020-21**

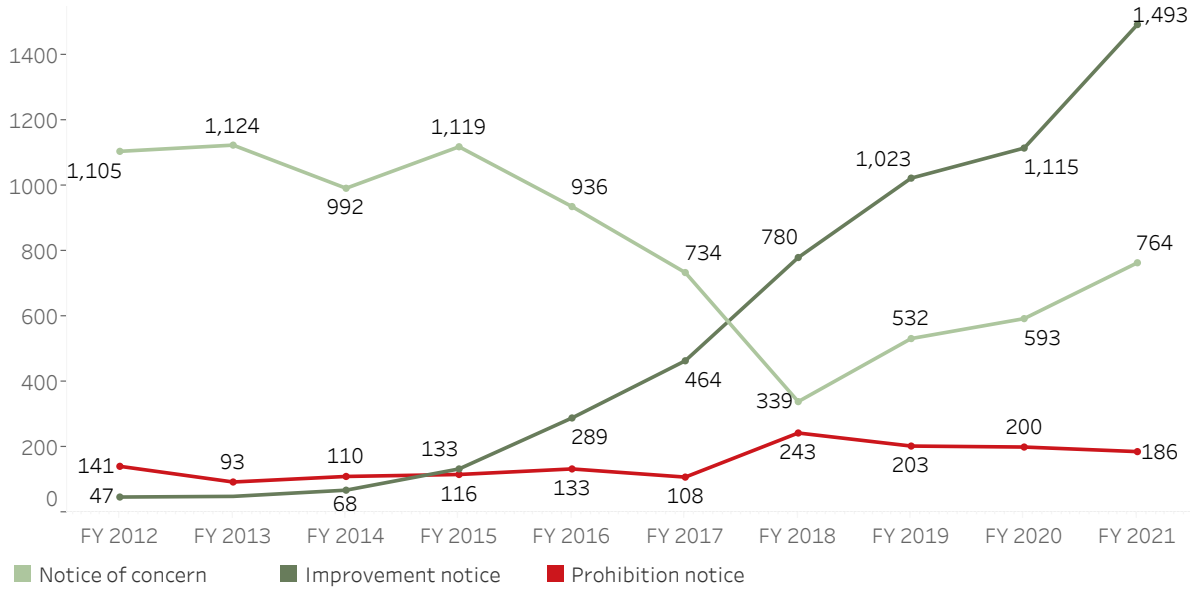


Notices issued by notice type

Since 2017-18, changes to the type of notices issued reflect the Regulator's renewed focus on incident prevention as outlined in its Compliance and Enforcement Approach (2017). The approach sought to clearly identify matters that necessitate the issue of an improvement notice rather than a written notice of concern.

Due to the small numbers of non-disturbance and explosives notices, these have not been included in the following figure.

FIGURE 26: **NOTICES ISSUED BY NOTICE TYPE 2011-12 TO 2020-21**



Sector profiles

NSW Resources Regulator

SECTOR REPORTING

Coal

Open cut, underground and coal preparation plants*

Metalliferous

Includes metals and mineral sands*

Extractives

Includes construction and industrial materials*

*Refer to Appendix 2 for definitions.

Chapter 2.

Coal Sector

Coal sector

Key performance measures 2020-21

0 fatal injuries

69 serious injuries

205 lost time injuries

556 total recordable injuries

1,549 notified incidents

756 notices issued

In the coal sector in 2020-21:

- There were no work-related **fatalities** and the last work-related fatality in the coal sector was in 2018-19. During the past ten years, there have been six work-related mining fatalities in the NSW coal sector, four in surface operations and two in underground operations (Figure 28).
- Downward trends have been observed since 2011-12 in the frequency rates for **serious injuries, lost time injuries** and **total recordable injuries** across the coal sector (Figures 29, 31 and 33) noting the 35% reduction in hours worked in underground coal mines from 2011-12 (Figure 27).
- Of the 69 **serious injuries** notified, the majority (61%) occurred in underground coal mines. Since 2017-18, serious injuries reported in surface coal mines have doubled from 13 to 27 but the **serious injury frequency rate** (SIFR) has shown a small downward trend since 2018-19 (Figures 29 – 30).
- There were 205 **lost time injuries** reported, with just over half occurring in underground operations. The **lost time injury frequency rate** (LTIFR) has steadily declined and then plateaued over the reporting decade, marking an overall 36% decrease (Figures 31 – 32).
- There were 556 **total recordable injuries**, up 4% from 2019-20. In the ten years since 2011-12, total recordable injuries in the coal sector have decreased by almost half. A downward trend in the rolling five-year average **total recordable injury frequency rate** (TRIFR) was observed across the coal sector, with an overall decrease since 2011-12 of just over half (Figures 33 - 34).

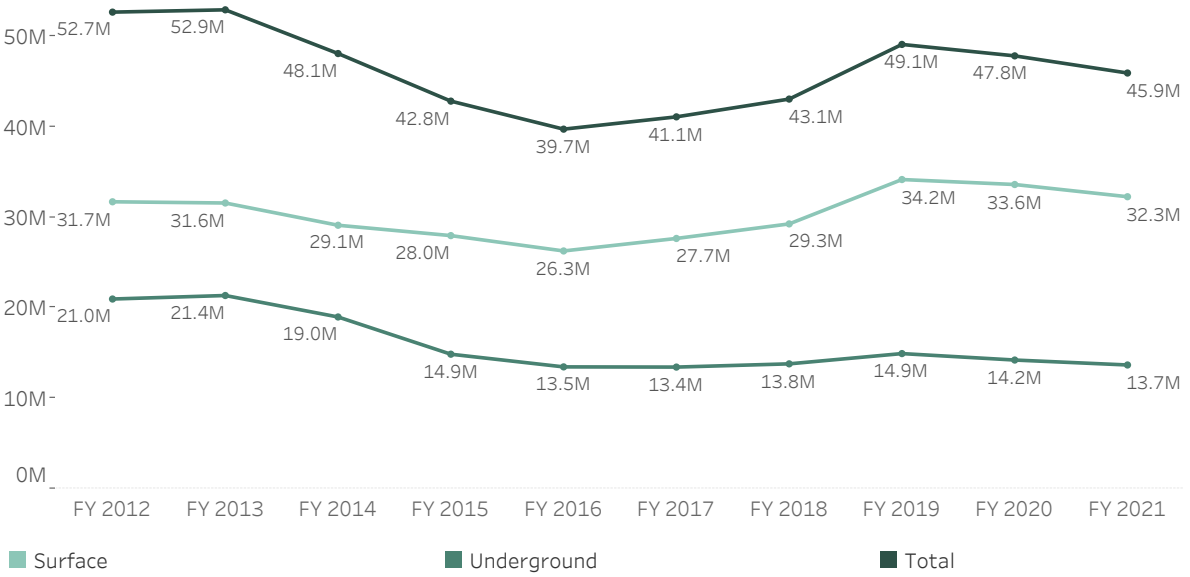
- There were 1,549 **incidents notified** to the Regulator by the coal sector, a small decrease from the previous year. In the ten years since 2011-12, incidents notified by the coal sector have decreased by just over 40%. Notified incidents in underground operations have decreased by 60% since 2011-12, with underground operations accounting for 58% of incidents notified in 2020-21. The **incident notification frequency rate** (INFR) decreased slightly compared to 2019-20. (Figures 35 - 36).
- **Other high potential incidents** were the predominant incidents notified in surface coal mines, with a 78% increase from 2019-20, with decreases in **dangerous incidents** (40%) and **potentially dangerous incidents** (28%) observed. In underground coal mines, **other high potential incidents** represent the greatest proportion of incident notifications across the most recent five-year period. Multiple factors including legislative framework, inherent hazards and characteristics of each sector and commodity produced heavily influence the differences observed across each of the operation types (Figure 37).
- There were 756 **notices issued** in the coal sector, an increase of 34% from 2019-20, with improvement notices accounting for just over half. The majority of notices (notices of concern, improvement, prohibition and non-disturbance notices) were issued to underground coal mines. This aligns with all previous years of the ten-year reporting period, with the exception of 2019-20 where the majority of notices were issued to surface coal mines (Figures 38 – 39).

See Appendix 3 for sector summary data.

Hours worked

In 2020-21 the total hours worked in the coal sector decreased slightly from 2019-20 and the majority of hours worked were in surface coal operations.

FIGURE 27: **COAL SECTOR HOURS WORKED BY OPERATION TYPE 2011-12 TO 2020-21**

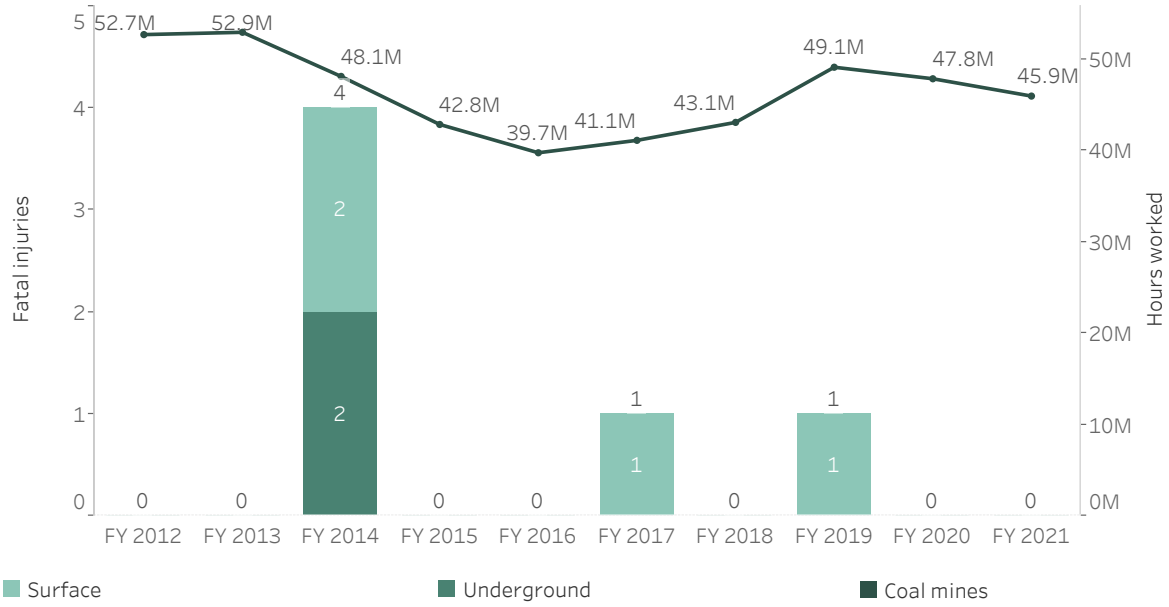


Fatal injuries

Fatal injuries and hours worked

For more information on fatal injuries in NSW coal mines for the last 100 years refer to Figure 3 which shows the sustained long-term decrease in coal mining fatal injuries.

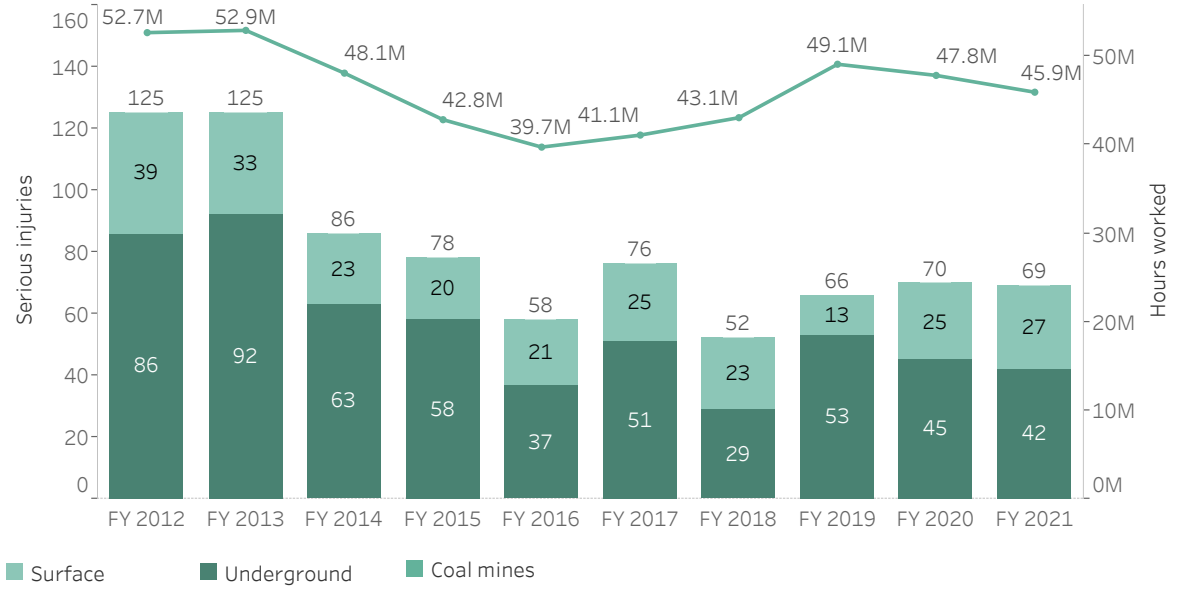
FIGURE 28: **COAL SECTOR FATAL INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Serious injuries

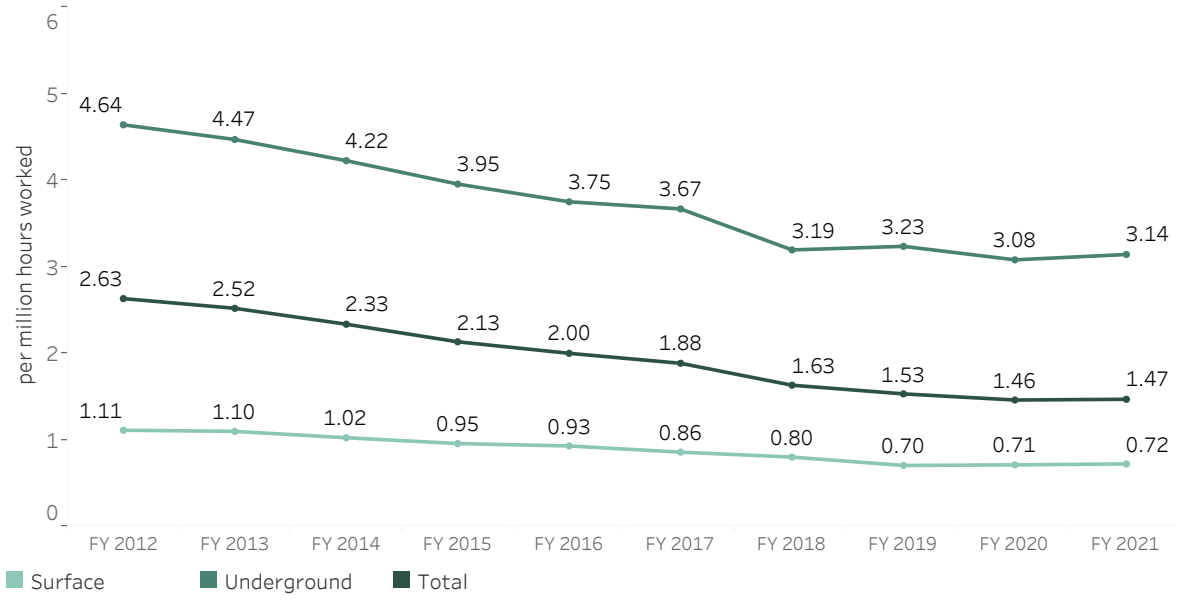
Serious injuries and hours worked

FIGURE 29: **COAL SECTOR SERIOUS INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Serious injury frequency rates

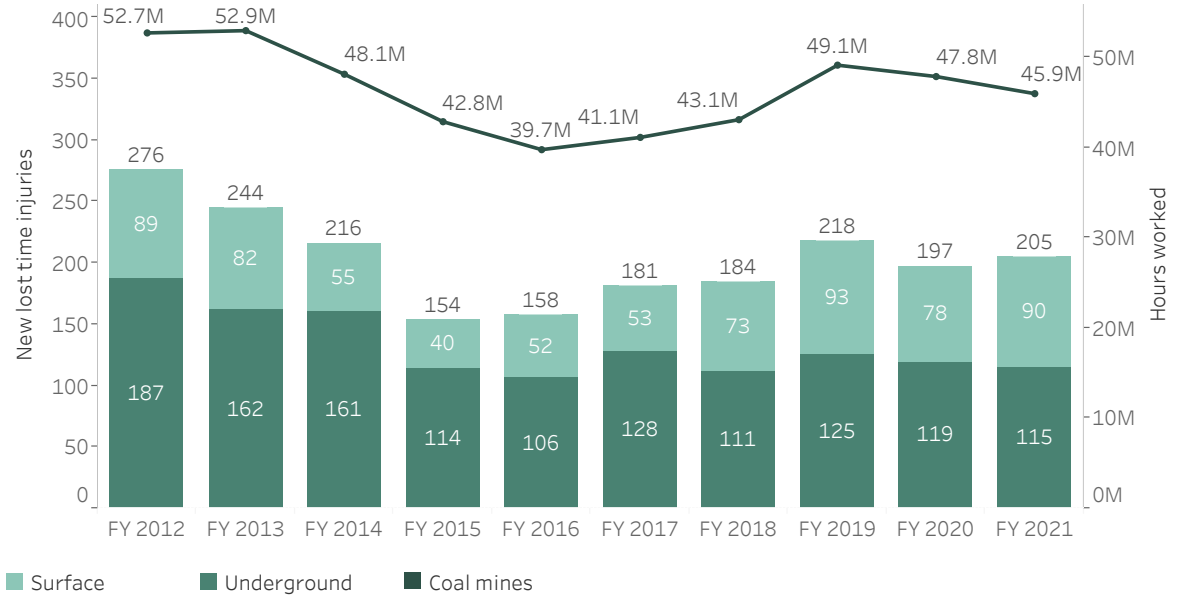
FIGURE 30: **COAL SECTOR ROLLING FIVE-YEAR SIFR 2011-12 TO 2020-21**



Lost time injuries

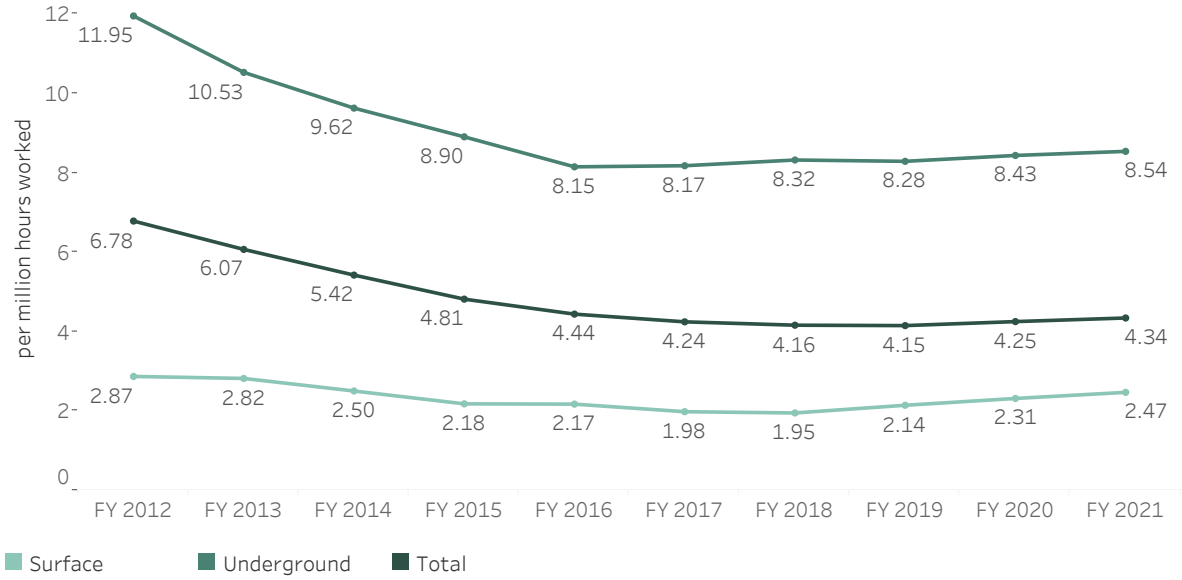
Lost time injuries and hours worked

FIGURE 31: **COAL SECTOR LOST TIME INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Lost time injury frequency rates

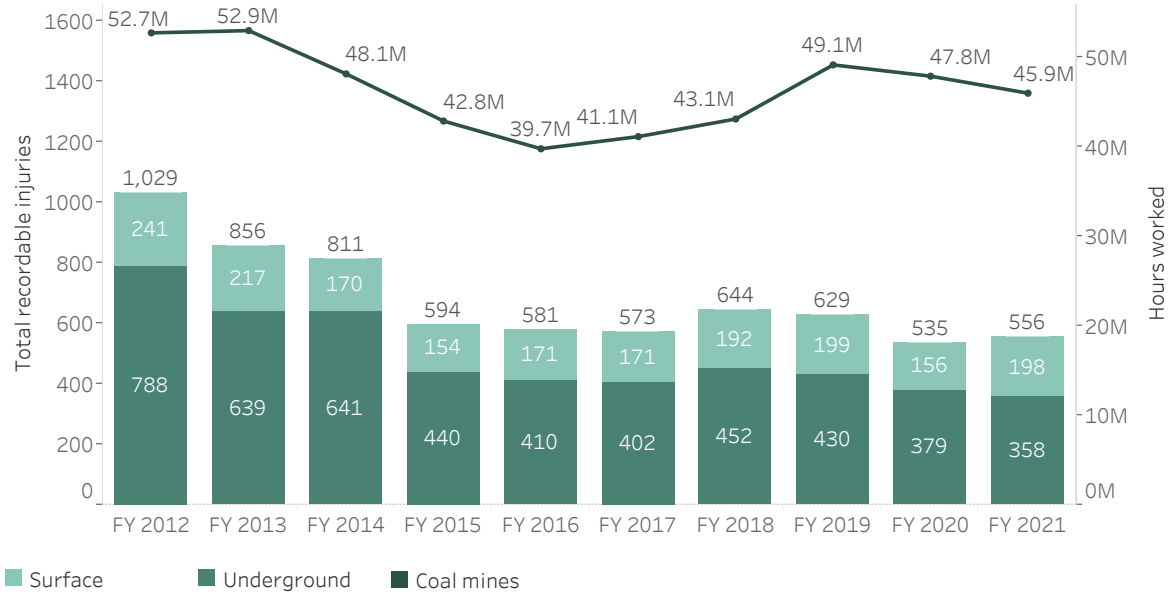
FIGURE 32: **COAL SECTOR ROLLING FIVE-YEAR LTIFR 2011-12 TO 2020-21**



Total recordable injuries

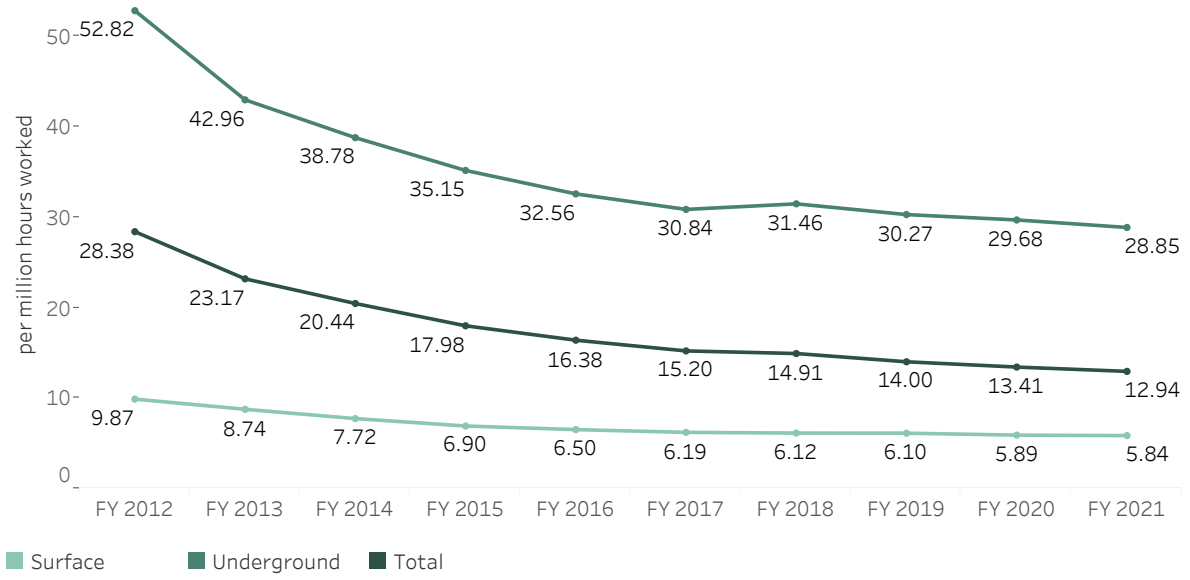
Total recordable injuries and hours worked

FIGURE 33: **COAL SECTOR TOTAL RECORDABLE INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Total recordable injury frequency rates

FIGURE 34: **COAL SECTOR ROLLING FIVE-YEAR AVERAGE TRIFR 2011-12 TO 2020-21**

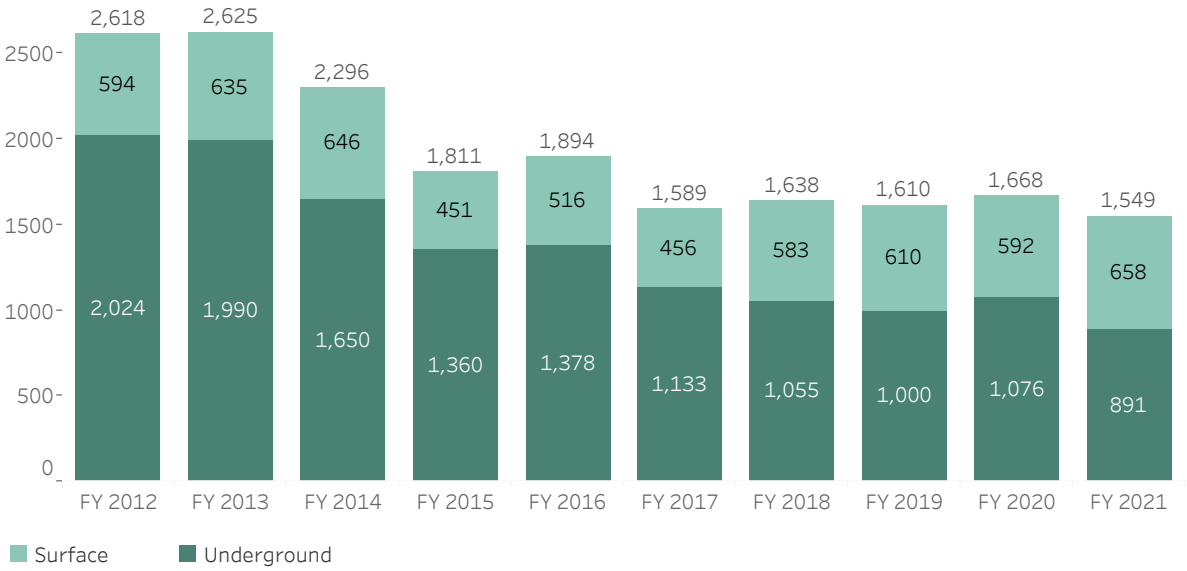


Notified incidents

Notified incidents by operation type

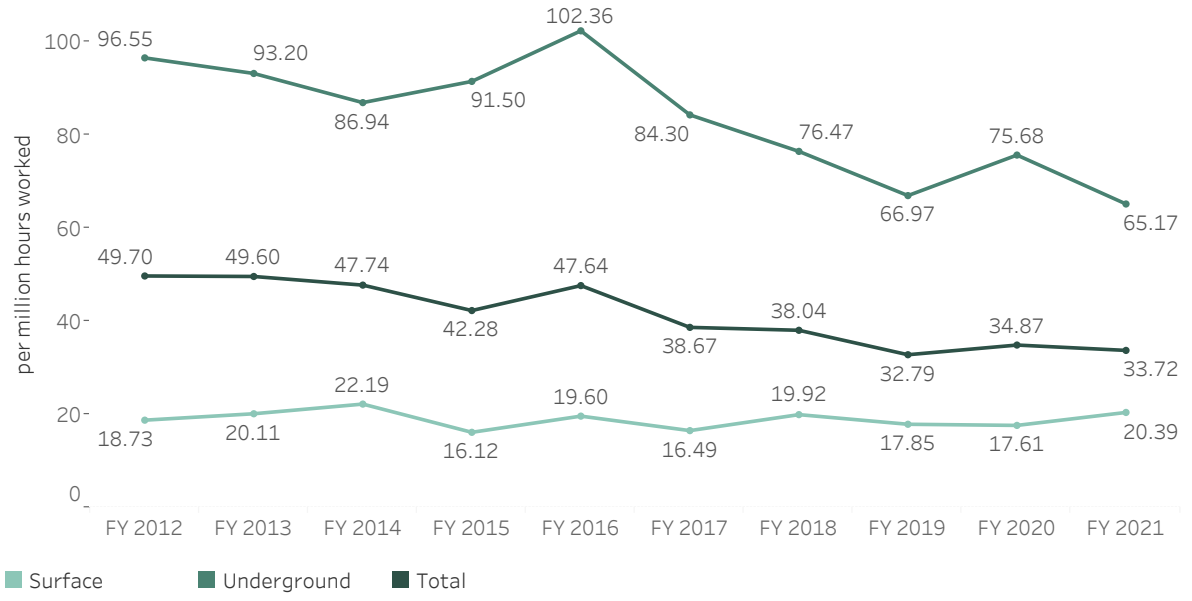
Note: Any incident notification that included multiple gas exceedances has been included as individual incident notifications in this report.

FIGURE 35: **COAL SECTOR NOTIFIED INCIDENTS BY OPERATION TYPE 2011-12 TO 2020-21**



Incident notification frequency rates

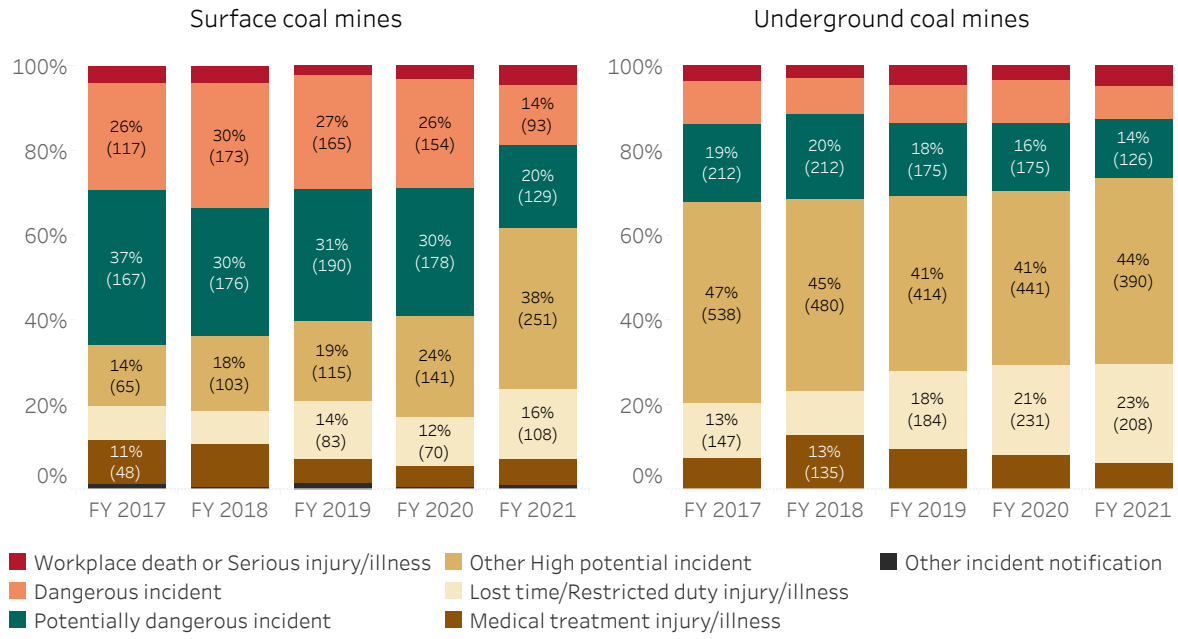
FIGURE 36: **COAL SECTOR INFR 2011-12 TO 2020-21**



Incident notification reporting trends

INCIDENT NOTIFICATION PROFILE

FIGURE 37: **COAL SECTOR INCIDENT NOTIFICATION PROFILE BY OPERATION TYPE 2016-17 TO 2020-21**



PROPORTION OF COAL MINES NOTIFYING INCIDENTS

The proportion of coal mines notifying incidents has decreased by 36% over the ten-year reporting period from 96% in 2011-12 to 61% in 2020-21. On average, 75% of coal mines notified incidents during the ten-year reporting period, with a decrease of 37% over the period.

The table provided below excludes the exploration sector and the numbers will be different to those previously reported due to changes in work health and safety reporting requirements in June 2020 as outlined in the Explanatory notes.

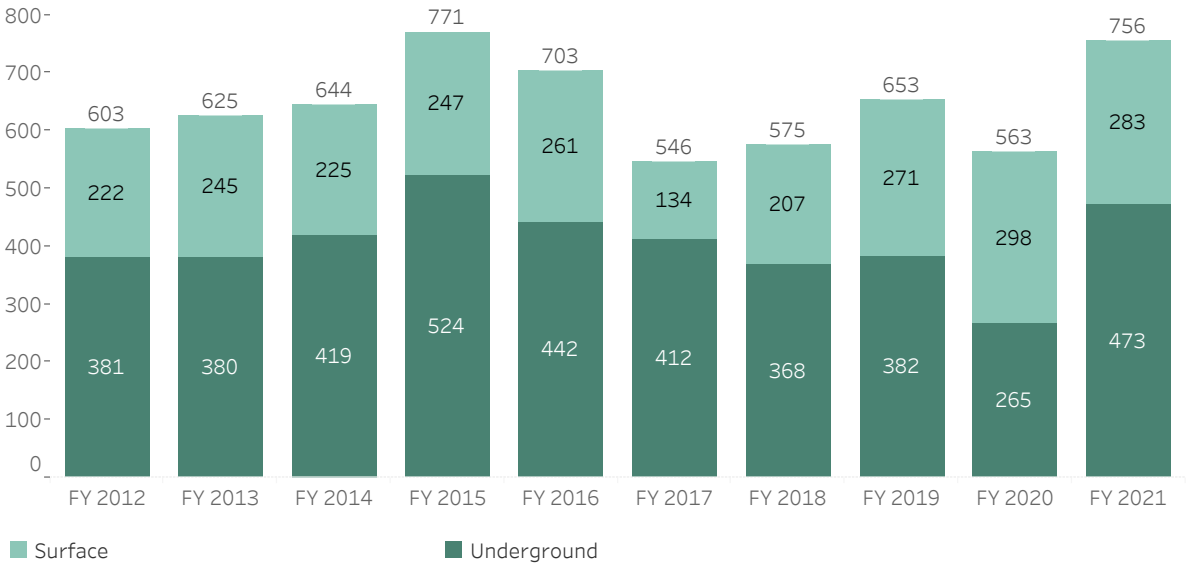
TABLE 3: **COAL SECTOR PROPORTION OF MINES THAT NOTIFIED AN INCIDENT 2011-12 TO 2020-21**

MEASURE	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total number of notified incidents	2,618	2,625	2,296	1,811	1,893	1,589	1,638	1,610	1,668	1,549
Number of active mines	85	84	83	83	95	111	111	123	122	118
Number of mines that notified an incident	82	77	76	72	69	71	75	71	75	69
% of mines that notified an incident	96%	92%	92%	87%	73%	64%	68%	58%	61%	58%

Notices issued

Notices issued by operation type

FIGURE 38: **COAL SECTOR NOTICES ISSUED BY OPERATION TYPE 2011-12 TO 2020-21**

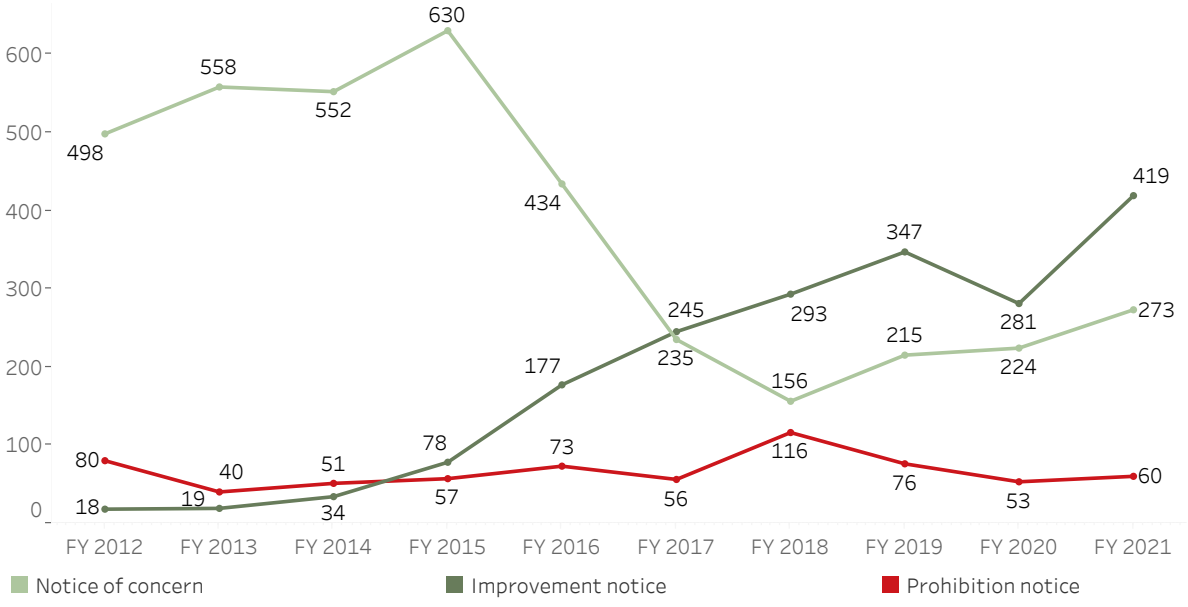


Notices issued by notice type

Since 2017-18, changes to the type of notices issued reflect the Regulator's renewed focus on incident prevention as outlined in its Compliance and Enforcement Approach (2017). The approach sought to clearly identify matters that necessitate the issue of an improvement notice rather than a written notice of concern.

Due to the small numbers of non-disturbance and explosives notices, these have not been included in the figure below.

FIGURE 39: **COAL SECTOR NOTICES ISSUED BY NOTICE TYPE 2011-12 TO 2020-21**



Chapter 3.

Metalliferous Sector

Metalliferous sector

Key performance measures 2020-21

0 fatal injuries

29 serious injuries

43 lost time injuries

181 total recordable injuries

326 notified incidents

511 notices issued

In the metalliferous sector in 2020-21:

- There were no work-related **fatalities** and the last work-related fatality in the coal sector was in 2019-20. During the past ten years, there have been six work-related mining fatalities in the NSW metalliferous sector, four in underground operations and two in surface operations (Figure 41).
- The **serious injury frequency rate** has been increasing in underground mines and decreasing in surface mines. An upward trend was also observed in the **lost time injury frequency rate** since 2011-12, particularly in underground mines from 2014-15, while the **total recordable injury rate** trended down across the metalliferous sector (Figures 43, 49 and 51).
- Of the 29 **serious injuries** notified, the majority occurred in underground metalliferous mines. The **serious injury frequency rate** (SIFR) remained steady from 2019-20, representative of approximately a 14% increase at underground operations and a 35% decrease at surface operations since 2011-12 (Figures 42 - 43).
- A breakdown analysis of **serious injuries** in the sector since 2018-19 observed increases for the most injured bodily location of hand, fingers or wrist. In 2020-21, four were fractures, three lacerations and two amputated fingers. The predominant injury mechanism was 'being hit by moving objects'. The breakdown analysis also found increases in head or neck injuries. Of the six head or neck injuries in 2020-21, there were only two associated mechanisms, 'being hit by moving objects' and 'falls of a person'. Due to multiple contributing factors as

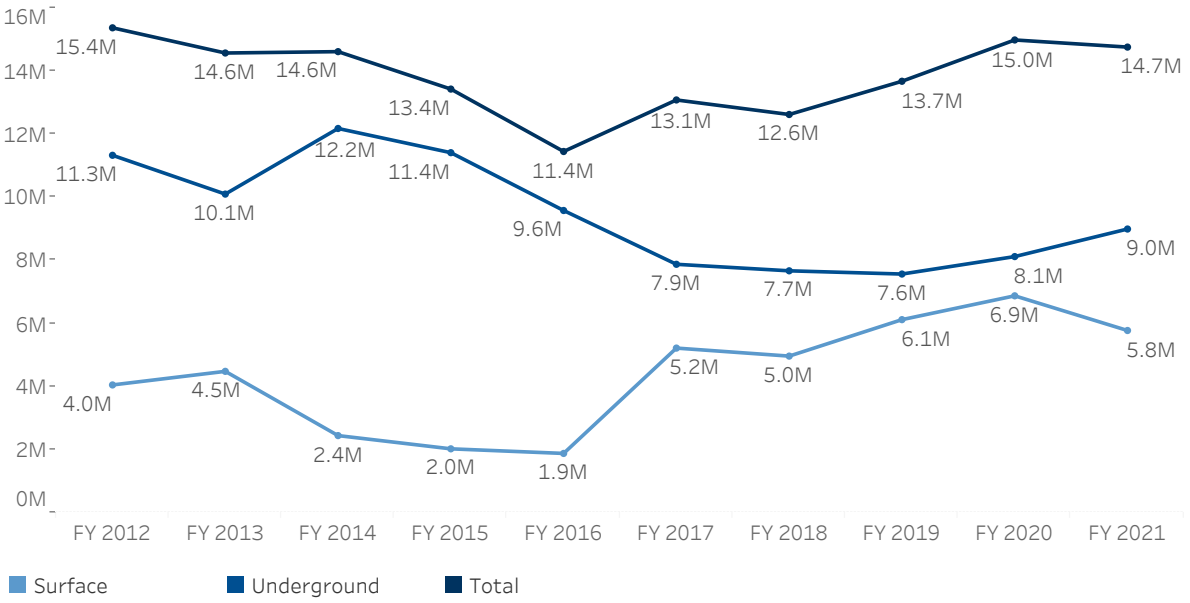
well as the relatively small number of these injuries, it is not possible to draw any reliable conclusions about the cause of any of the changes identified. Nevertheless, the Regulator continues to closely monitor **serious injuries** across all sectors (Figures 44 - 47).

- There were 43 **lost time injuries** reported, with the majority occurring in underground operations which aligns with the proportion of incident notifications across the ten-year period. Since 2017-18 the **lost time injury frequency rate** (LTIFR) in underground operations has increased by 29%, while surface operations LTIFR has decreased by 11% (Figures 48 – 49).
- **Total recordable injuries** have remained steady from 2019-20, with the past four years total recordable injuries being the lowest in the ten-year reporting period. A steady downward trend has been observed in the rolling five-year average **total recordable injury frequency rate** (TRIFR) since 2014-15 (Figures 50 - 51).
- In the ten years since 2011-12, a steady overall increase in the number of **incidents notified** was observed in the metalliferous sector, with a 35% increase observed since 2017-18. Since 2011-12 an upward trend has been observed in the **incident notification frequency rate** (INFR) for underground operations despite a substantial reduction in reported hours worked, while in surface operations a downward trend has been observed since 2015-16 along with an increase in hours worked in the same period (Figures 52 - 53).
- Between 2016-17 and 2020-21, the greatest proportion of incident notifications in both surface and underground operations related to **dangerous incidents**. Multiple factors including legislative framework, inherent hazards and characteristics of each sector and commodity produced contribute to the differences observed across each of the operation types. While each operation type presents a distinct notification profile, comparable results were observed across the five-year period (Figure 54).
- There were 511 **notices issued** in the metalliferous sector, a 22% increase from 2020-21 with improvement notices accounting for almost 60% of all notices issued in the year. Three quarters of all notices were issued to underground operations in line with the ten-year reporting period (Figures 55 - 56).

Hours worked

In 2020-21 the total hours worked for the metalliferous sector decreased by 2% from 2019-20, with an 11% increase seen in underground operation and a 15% increase in surface operations. The majority of hours worked were in underground metalliferous operations.

FIGURE 40: **METALLIFEROUS SECTOR HOURS WORKED BY OPERATION TYPE 2011-12 TO 2020-21**

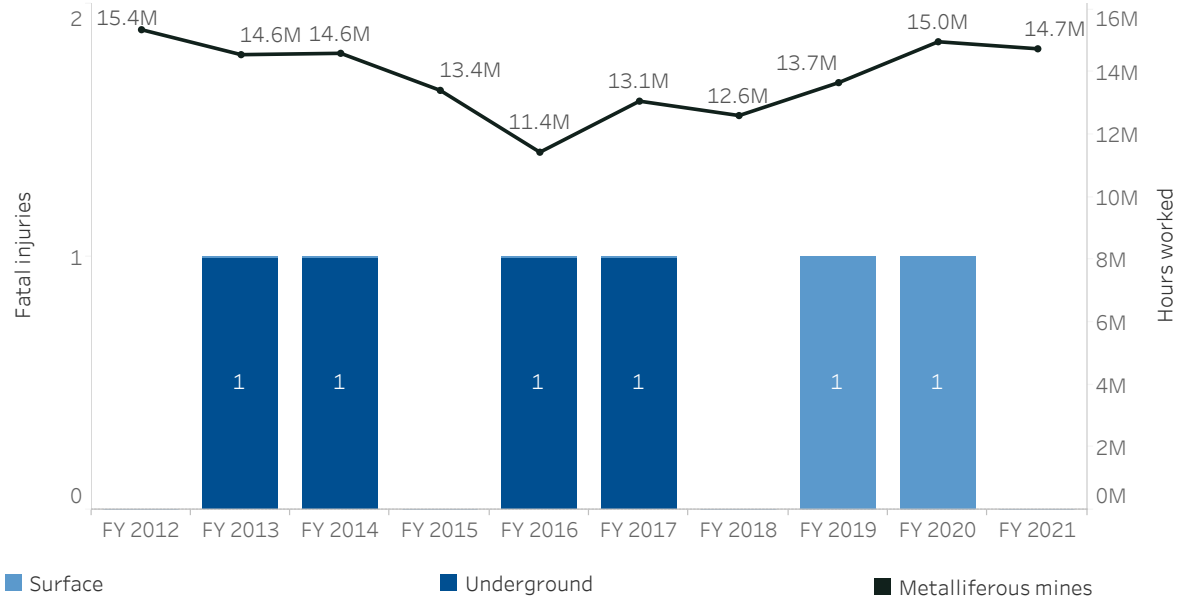


Fatal injuries

Fatal injuries and hours worked

For more information on fatal injuries in NSW metalliferous mines since 1989 refer to Figure 3.

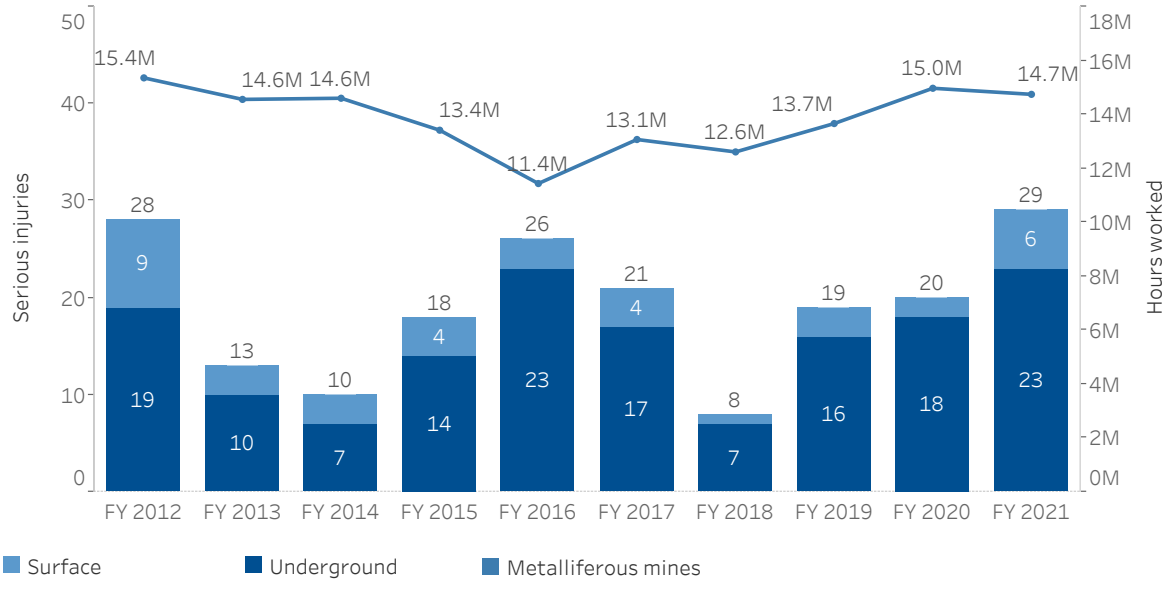
FIGURE 41: **METALLIFEROUS SECTOR FATAL INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Serious injuries

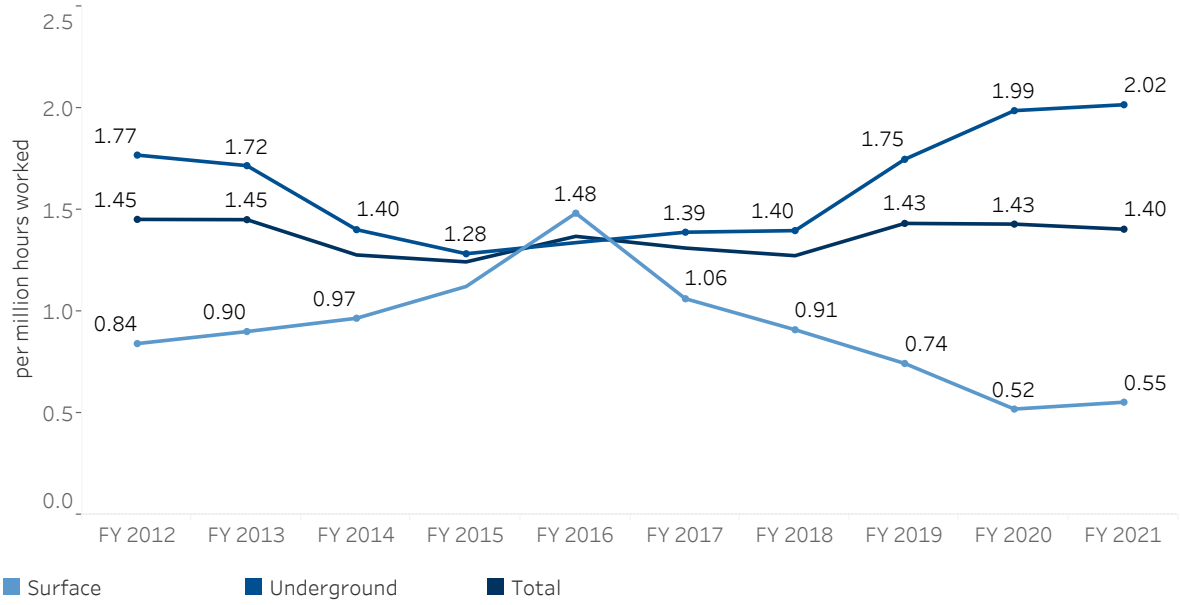
Serious injuries and hours worked

FIGURE 42: **METALLIFEROUS SECTOR SERIOUS INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Serious injury frequency rates

FIGURE 43: **METALLIFEROUS SECTOR ROLLING FIVE-YEAR SIFR 2011-12 TO 2020-21**

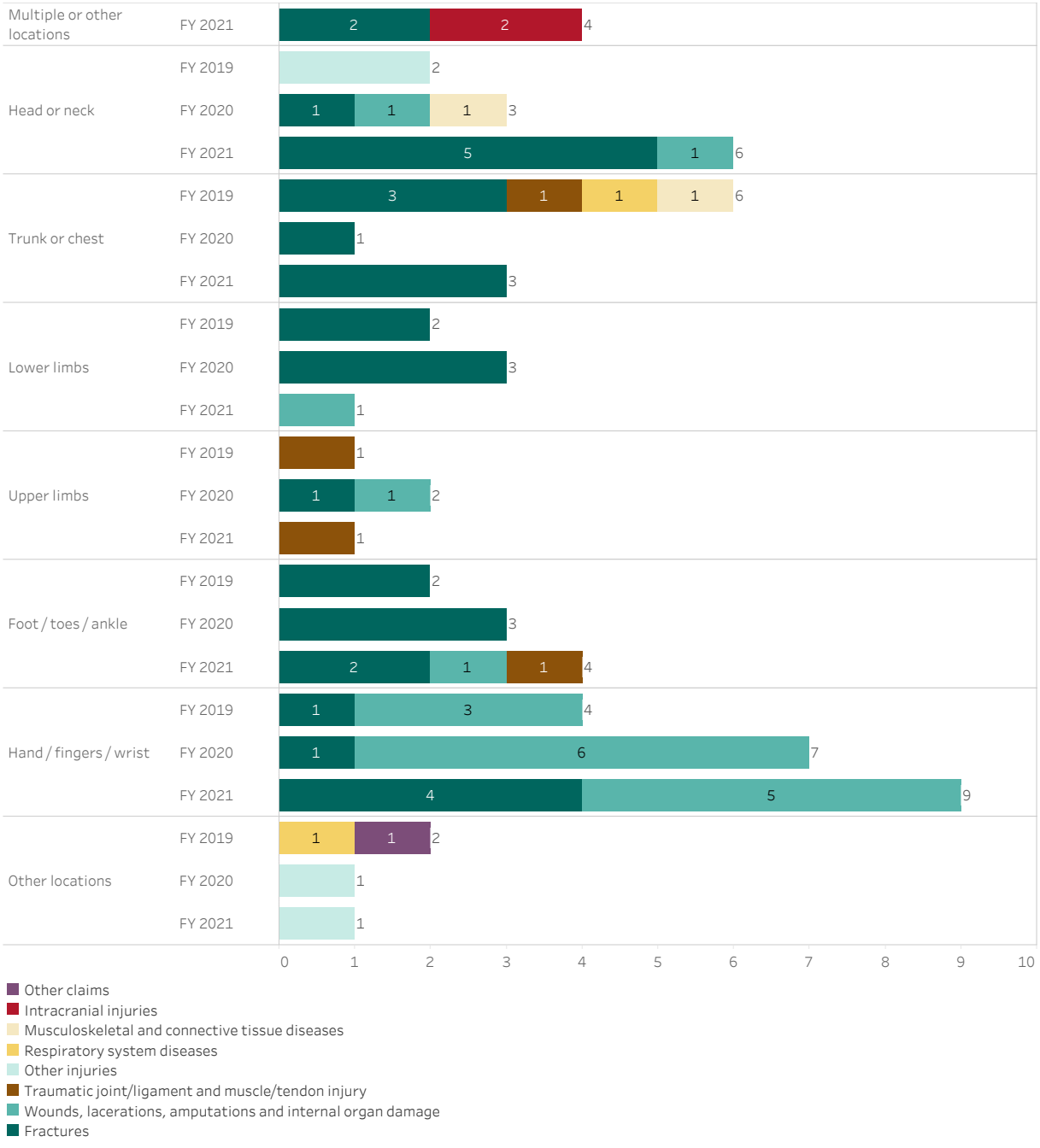


Serious injury by bodily location

Note: 'Other injuries' includes effects of weather, exposure, air pressure and other external causes not elsewhere classified, electrocution, shock from electric current and multiple injuries.

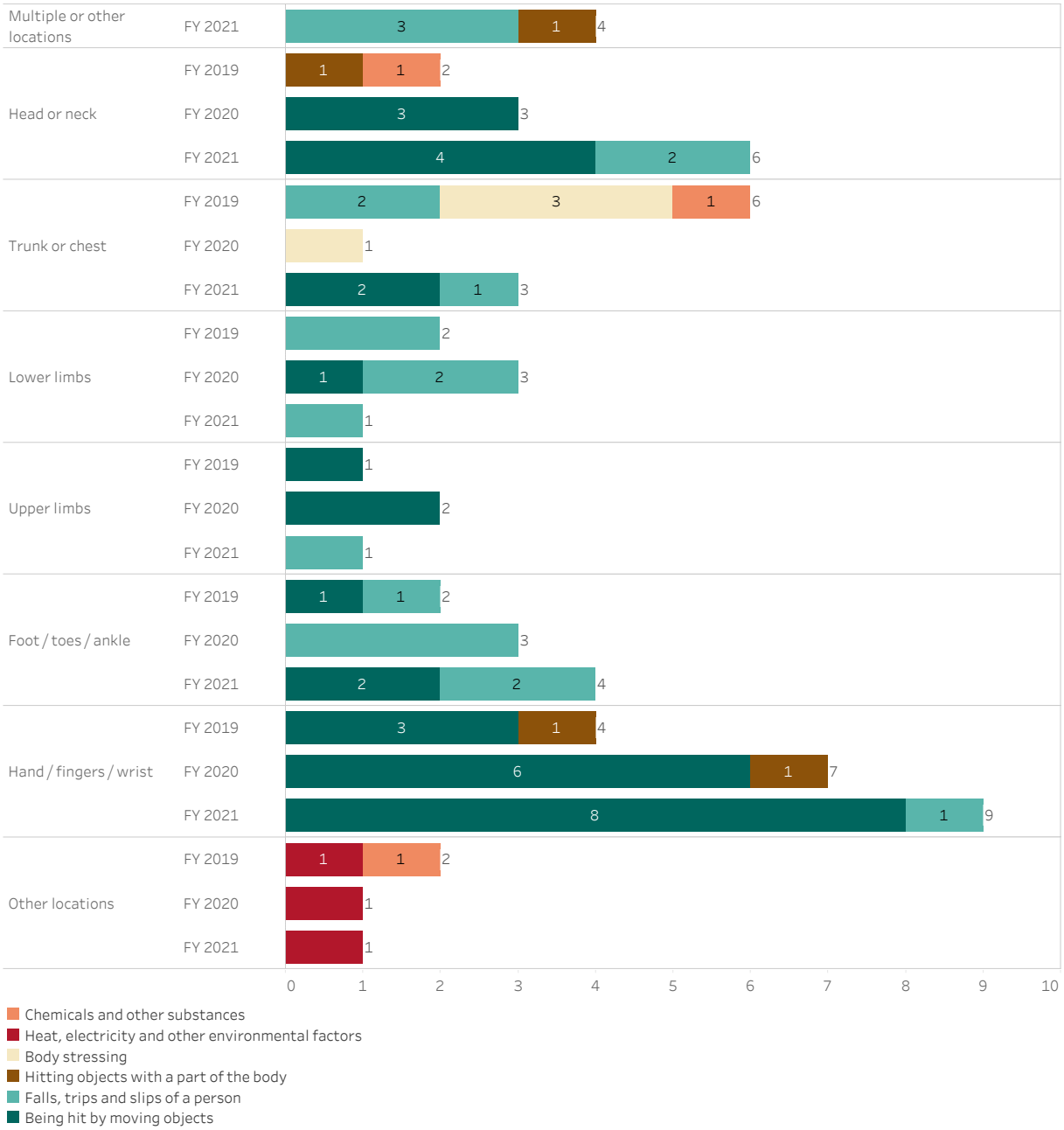
NATURE OF INJURY

FIGURE 44: **METALLIFEROUS SECTOR BODILY LOCATION OF SERIOUS INJURIES BY NATURE OF INJURY 2018-19 TO 2020-21**



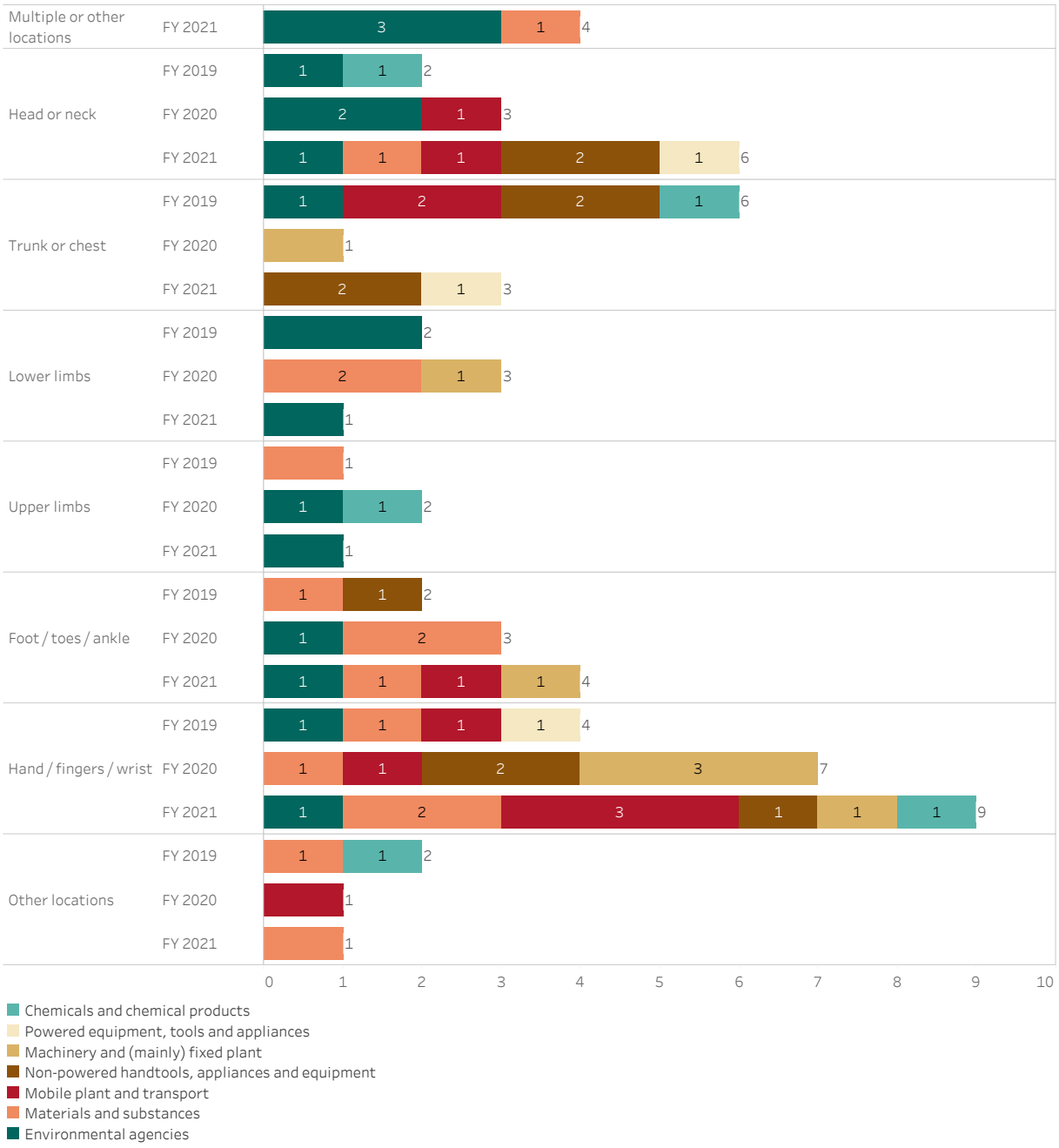
MECHANISM

FIGURE 45: **METALLIFEROUS SECTOR BODILY LOCATION OF SERIOUS INJURIES BY MECHANISM 2018-19 TO 2020-21**



BREAKDOWN AGENCY

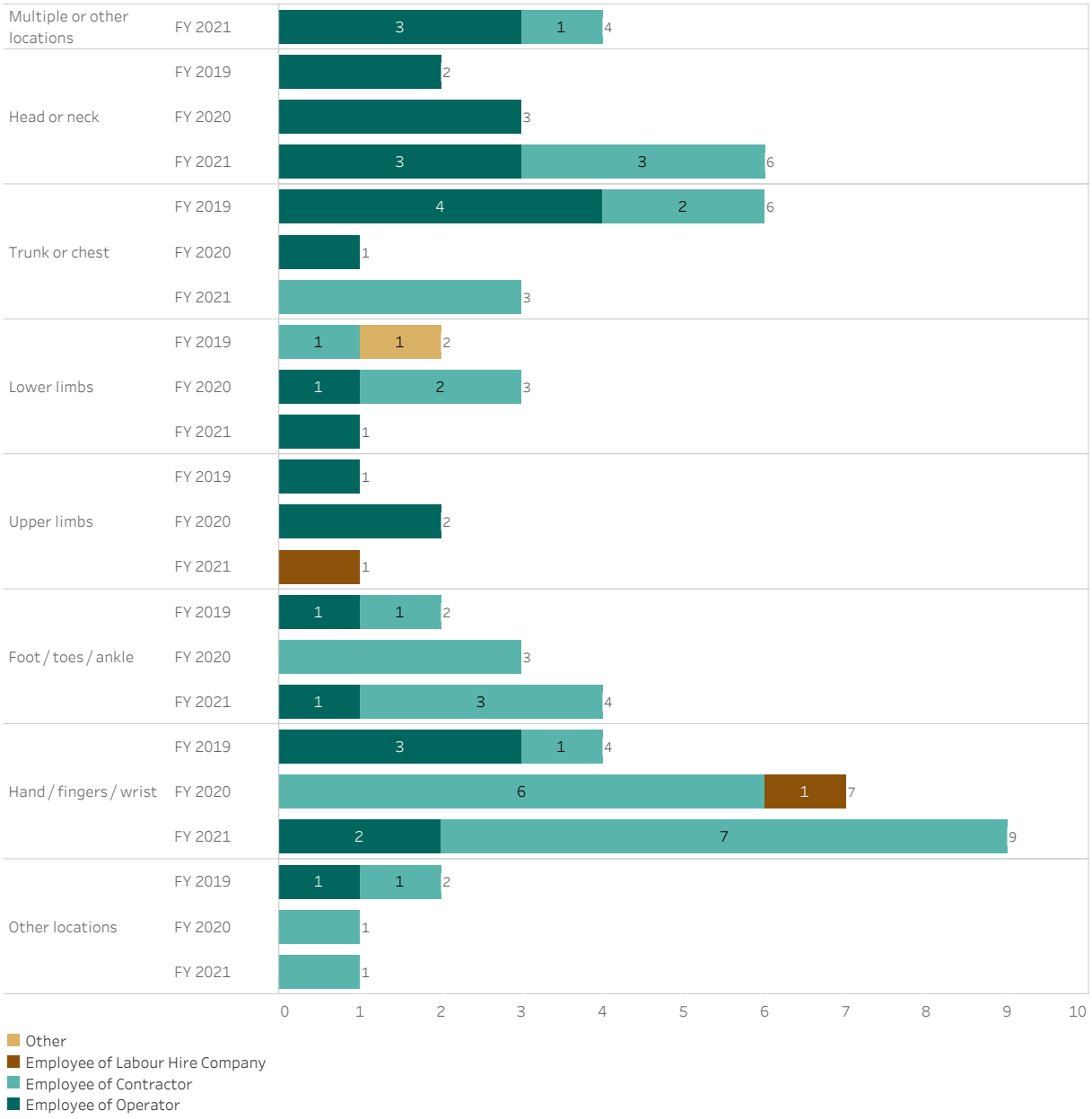
FIGURE 46: **METALLIFEROUS SECTOR BODILY LOCATION OF SERIOUS INJURIES BY BREAKDOWN AGENCY 2018-19 TO 2020-21**



EMPLOYMENT TYPE

In the metalliferous sector hours worked by employees of the mine operator for 2020-21 represented 55% of all hours worked in the sector.

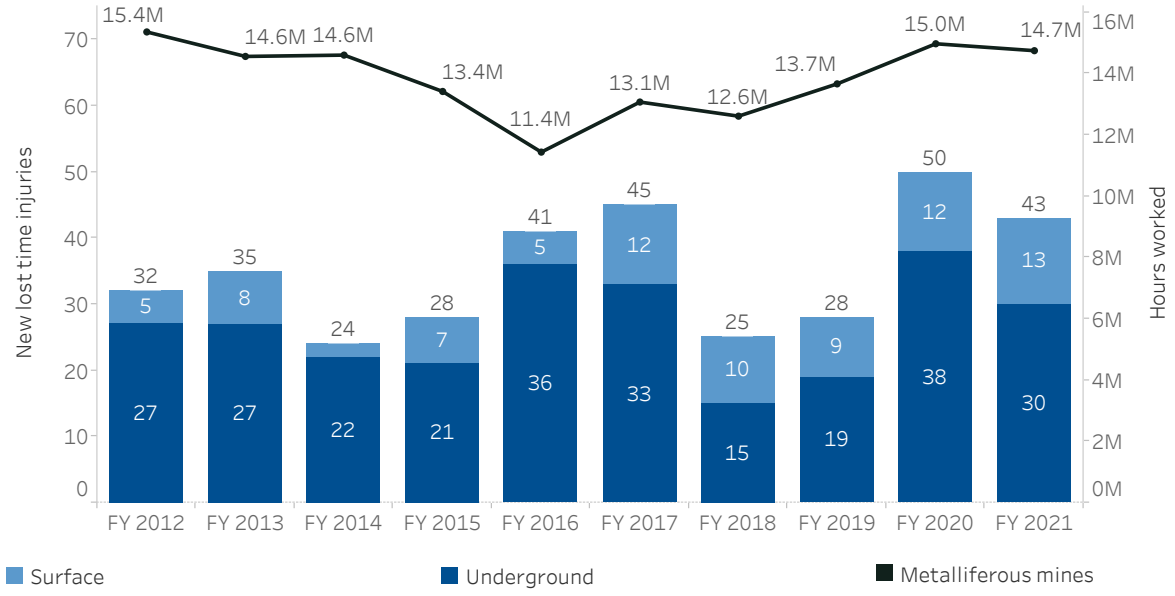
FIGURE 47: **BODILY LOCATION OF SERIOUS INJURIES BY EMPLOYMENT TYPE 2018-19 TO 2020-21**



Lost time injuries

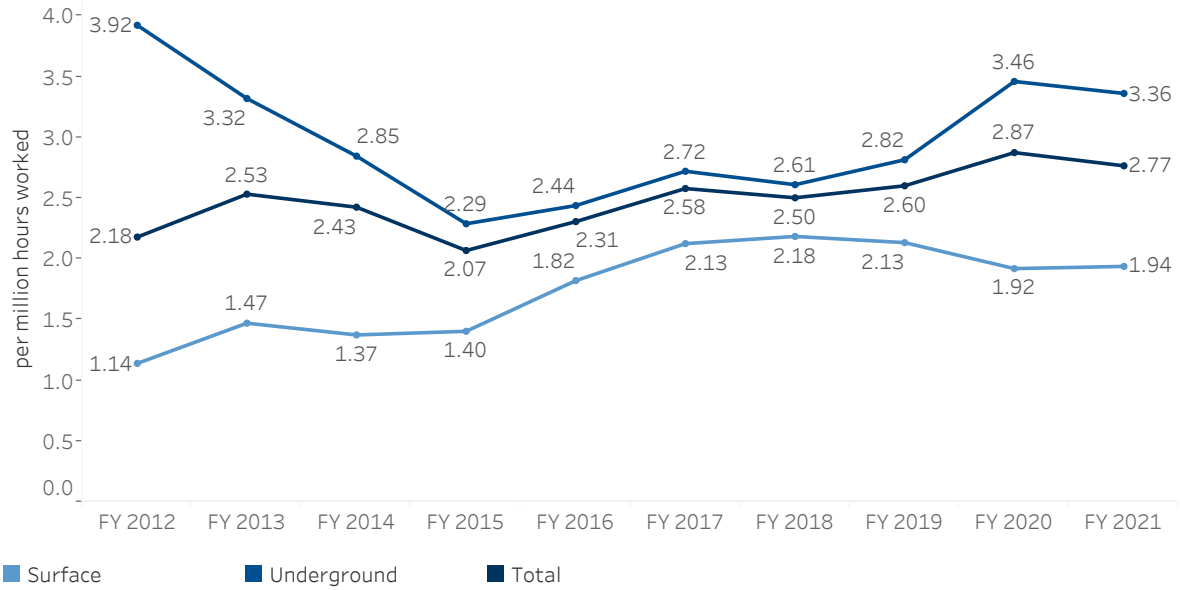
Lost time injuries and hours worked

FIGURE 48: **METALLIFEROUS SECTOR LOST TIME INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Lost time injury frequency rates

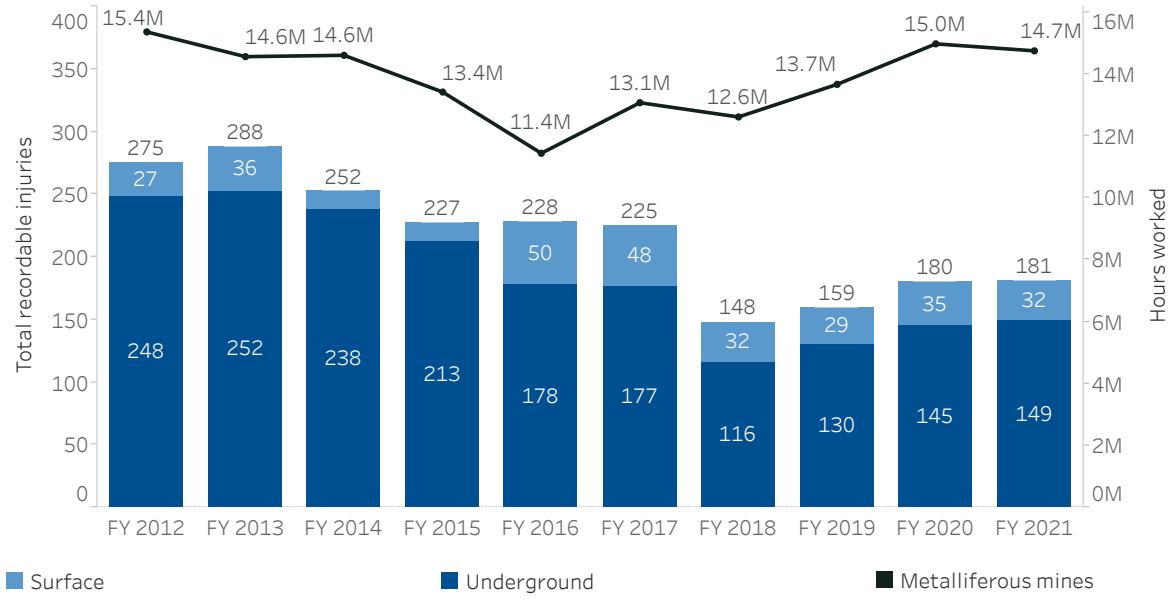
FIGURE 49: **METALLIFEROUS SECTOR ROLLING FIVE-YEAR LTIFR 2011-12 TO 2020-21**



Total recordable injuries

Total recordable injuries and hours worked

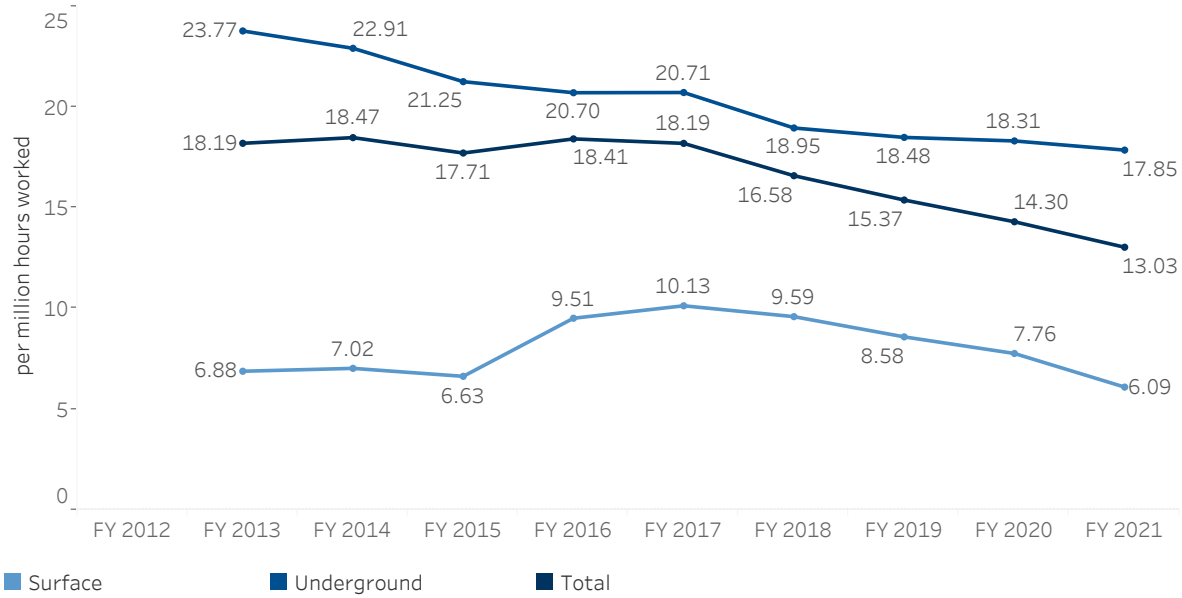
FIGURE 50: **METALLIFEROUS SECTOR TOTAL RECORDABLE INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Total recordable injury frequency rates

Note: A rolling five-year average TRIFR frequency rate was unable to be calculated for the whole ten-year reporting period as this information was only included in metalliferous work health and safety reporting requirements from the second quarter of 2008-09.

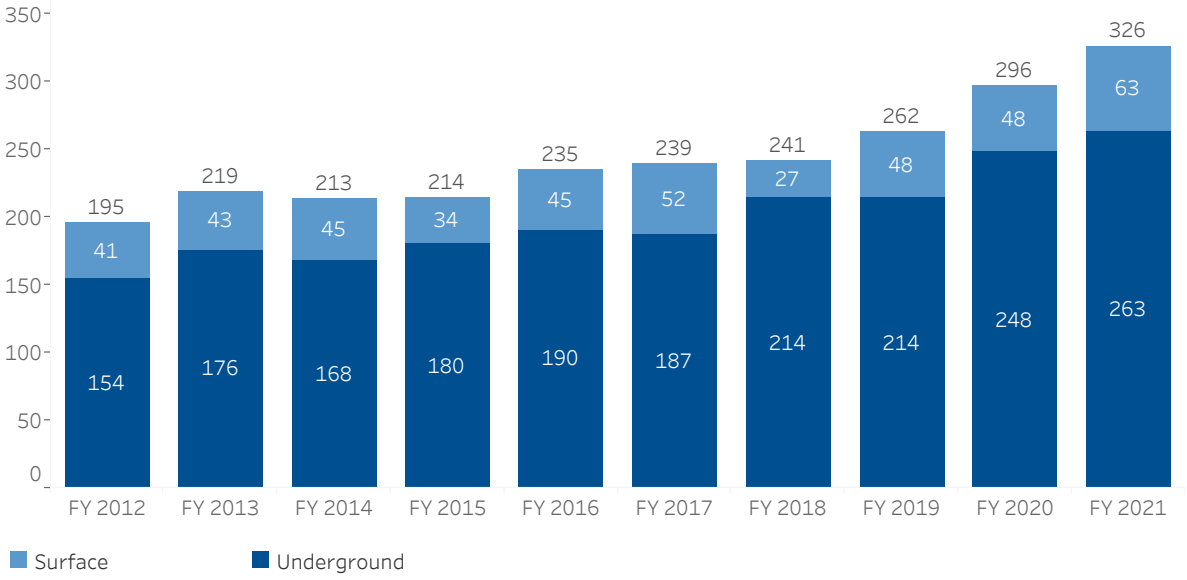
FIGURE 51: **METALLIFEROUS SECTOR FIVE-YEAR AVERAGE TRIFR 2011-12 TO 2020-21**



Notified incidents

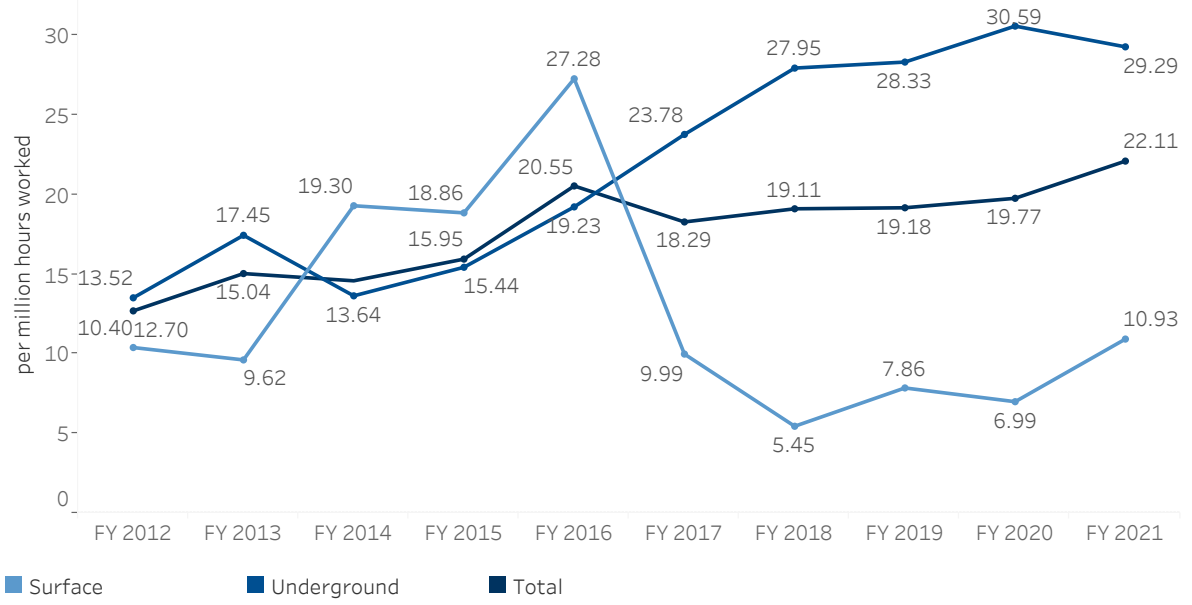
Notified incidents by operation type

FIGURE 52: **METALLIFEROUS SECTOR NOTIFIED INCIDENTS BY OPERATION TYPE 2011-12 TO 2020-21**



Incident notification frequency rates

FIGURE 53: **METALLIFEROUS SECTOR INFR 2011-12 TO 2020-21**

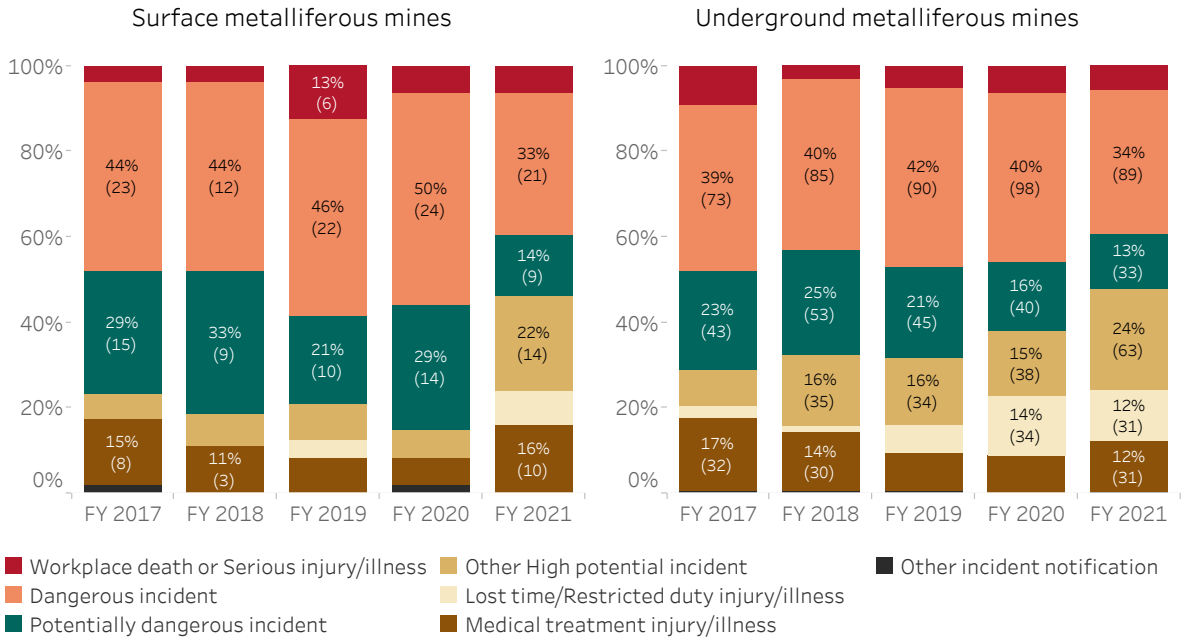


Incident notification reporting trends

INCIDENT NOTIFICATION PROFILE

Incident notification data allows the Regulator to monitor compliance and respond to sector specific reporting trends. Multiple contributing factors influence the types of incidents notified by each sector and operation type. These include, but are not limited to, the legislative framework, inherent hazards and characteristics of each sector and operation type as well as the commodity produced.

FIGURE 54: **METALLIFEROUS SECTOR INCIDENT NOTIFICATION PROFILE BY OPERATION TYPE 2016-17 TO 2020-21**



PROPORTION OF METALLIFEROUS MINES NOTIFYING INCIDENTS

While the number of metalliferous mines has increased by more than 19% in the ten years since 2011-12 (from 78 mines to 93 in 2020-21), the proportion of mines notifying incidents has remained relatively steady. On average, 27% active metalliferous mines notified the Regulator of an incident every year within the ten-year reporting period.

The table provided below excludes the exploration sector and the numbers will be different to those previously reported due to changes in work health and safety reporting requirements in June 2020 as outlined in the Explanatory notes.

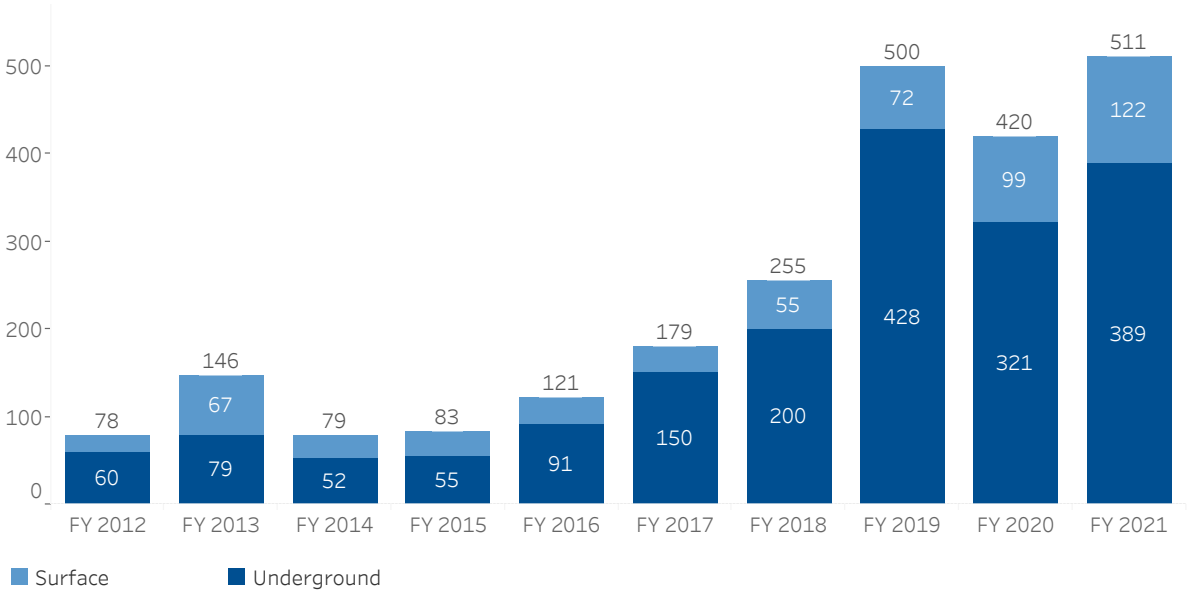
TABLE 4: **METALLIFEROUS SECTOR PROPORTION OF MINES THAT NOTIFIED AN INCIDENT 2011-12 TO 2020-21**

MEASURE	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total number of notified incidents	195	219	213	214	235	239	241	262	296	326
Number of active mines	78	82	81	85	98	109	107	116	105	93
Number of mines that notified an incident	27	20	26	25	26	24	26	23	27	26
% of mines that notified an incident	35%	24%	32%	29%	27%	22%	24%	20%	26%	28%

Notices issued

Notices issued by operation type

FIGURE 55: **METALLIFEROUS SECTOR NOTICES ISSUED BY OPERATION TYPE 2011-12 TO 2020-21**

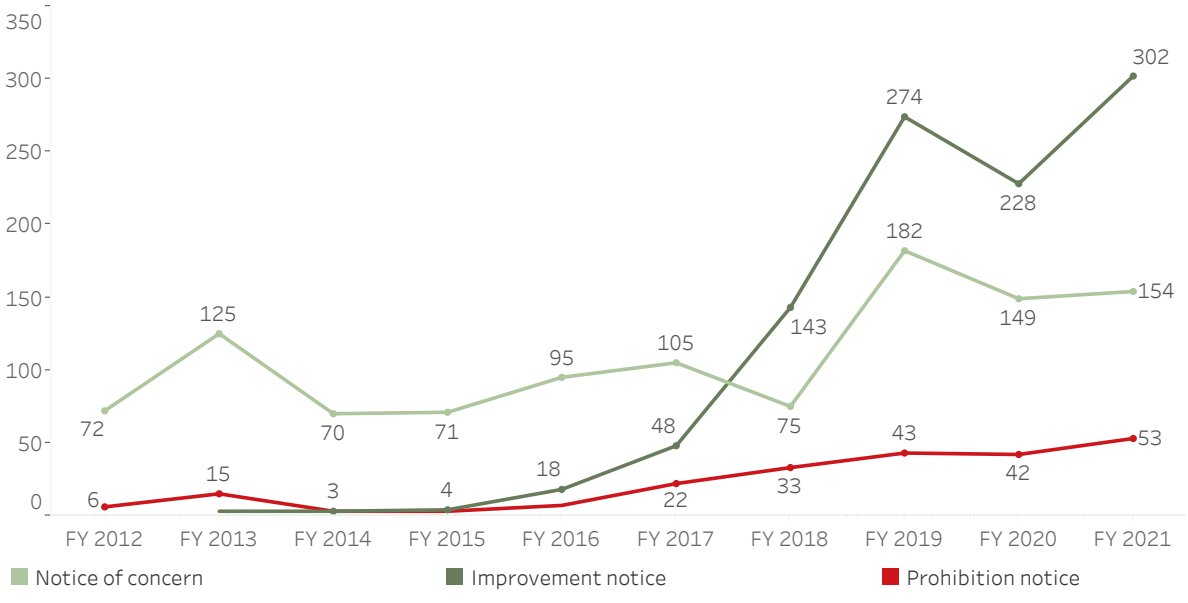


Notices issued by notice type

Since 2017-18, changes to the type of notices issued reflect the Regulator's renewed focus on incident prevention as outlined in its Compliance and Enforcement Approach (2017). The approach sought to clearly identify matters that necessitate the issue of an improvement notice rather than a written notice of concern.

Due to the small numbers of non-disturbance and explosives notices, these have not been included in the figure below.

FIGURE 56: **METALLIFEROUS SECTOR NOTICES ISSUED BY NOTICE TYPE 2011-12 TO 2020-21**



Chapter 4.

Extractives Sector

Extractives sector

Key performance measures 2020-21

1 fatal injury

17 serious injuries

42 lost time injuries

120 total recordable injuries

167 notified incidents

1,049 notices issued

In the extractives sector in 2020-21:

- There was one work-related **fatality**. The last work-related fatalities in the extractives sector were in 2014-15 (Figure 58).
- A recent upward trend was observed in the **serious injury frequency rate** (SIFR) for the extractives sector since 2018-19 but across the ten-year reporting period, the trend has been relatively stable. The **lost time injury frequency rate** (LTIFR) and **total recordable injury frequency rate** have both trended downward since 2012-13 (Figures 60, 62 and 64).
- There were 17 **serious injuries** notified, an increase of 42% from 2020-21, returning to the level observed in 2015-16. The **serious injury frequency rate** (SIFR) for the extractives sector remained steady from 2019-20 (Figures 59 – 60).
- There were 42 **lost time injuries** reported, an increase of 62% to return to numbers observed prior to 2019-20. The rolling five-year average **lost time injury frequency rate** (LTIFR) decreased slightly, continuing a steady downward trend observed since 2012-13 (Figures 61 – 62).
- There were 120 **total recordable injuries** marking an increase of 22% from 2019-20. The rolling five-year average **total recordable injury frequency rate** (TRIFR) experienced a slight increase compared to 2019-20, however a downward trend was observed overall from 2013-14 (Figures 63 – 64).

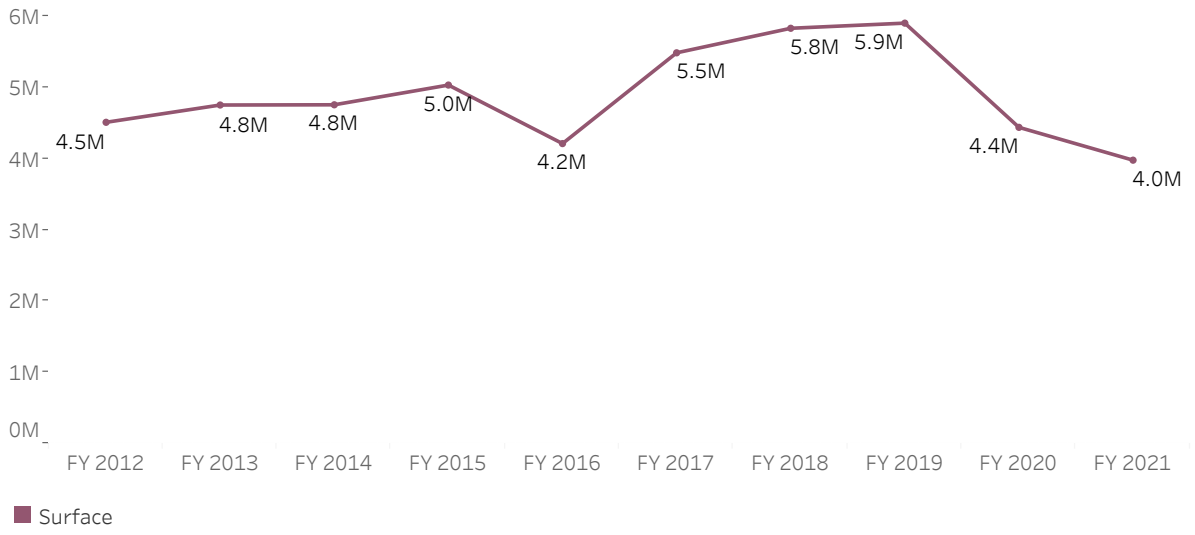
- There were 167 **incidents notified** to the Regulator, equalling the volume of incidents notified in 2019-20 and consistent with the overall upward trend observed. The **incident notification frequency rate** (INFR) increased by 10% to the highest INFR in the ten-year reporting period (Figures 65 - 66).
- Between 2016-17 and 2020-21, the greatest proportion of incident notifications in the extractives sector related to **other high potential incidents** and **dangerous incidents** (Figure 67).
- There were 1,049 **notices issued**, an increase of 40% from 2020-21. Improvement notices accounted for more than 60% of notices issued (Figures 68 – 69).

Hours worked

In 2020-21 the total hours worked in the surface extractives sector decreased by 10% from 2019-20.

Contributing to this decrease was the change in reporting requirements from June 2020. This was where non-coal mines with total worker hours of less than 10,000 hours per year became exempt from having to submit work health and safety reports to the Regulator.

FIGURE 57: **EXTRACTIVES SECTOR HOURS WORKED BY OPERATION TYPE 2011-12 TO 2020-21**



Fatal injuries

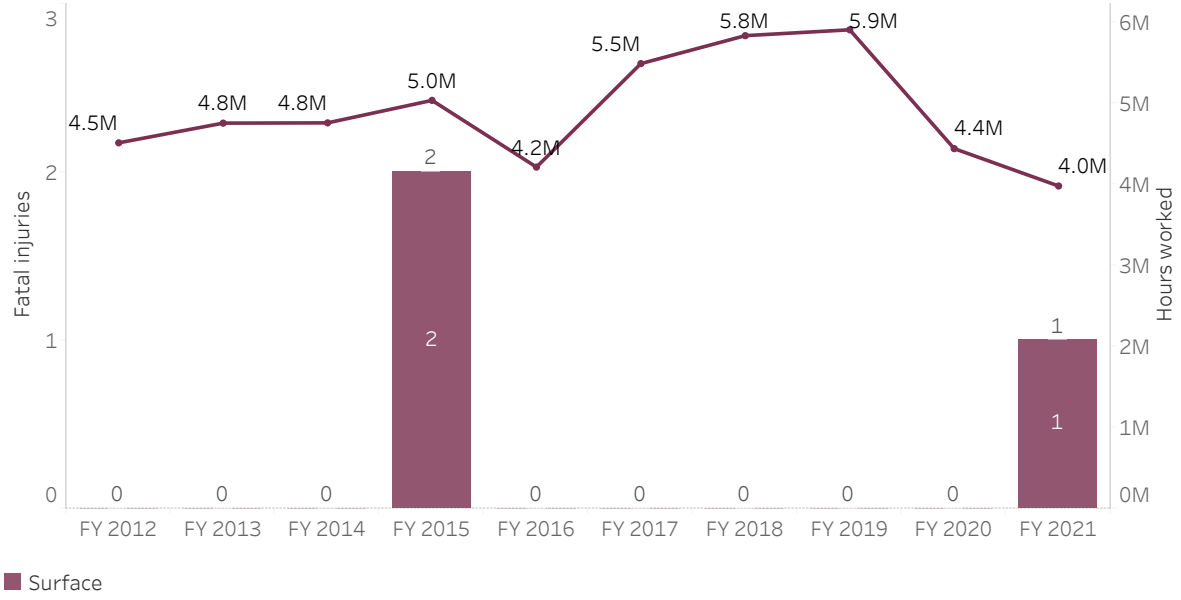
Fatal injuries and hours worked

In 2020-21 one mining fatality occurred in the extractives sector at a quarry in Wyalong. See the fatal injury spotlight section for further details.

During the past ten years, there have been three work-related mining fatalities in the extractives sector.

Figure 3 presents fatal injuries in NSW metalliferous and extractives mines since 1989.

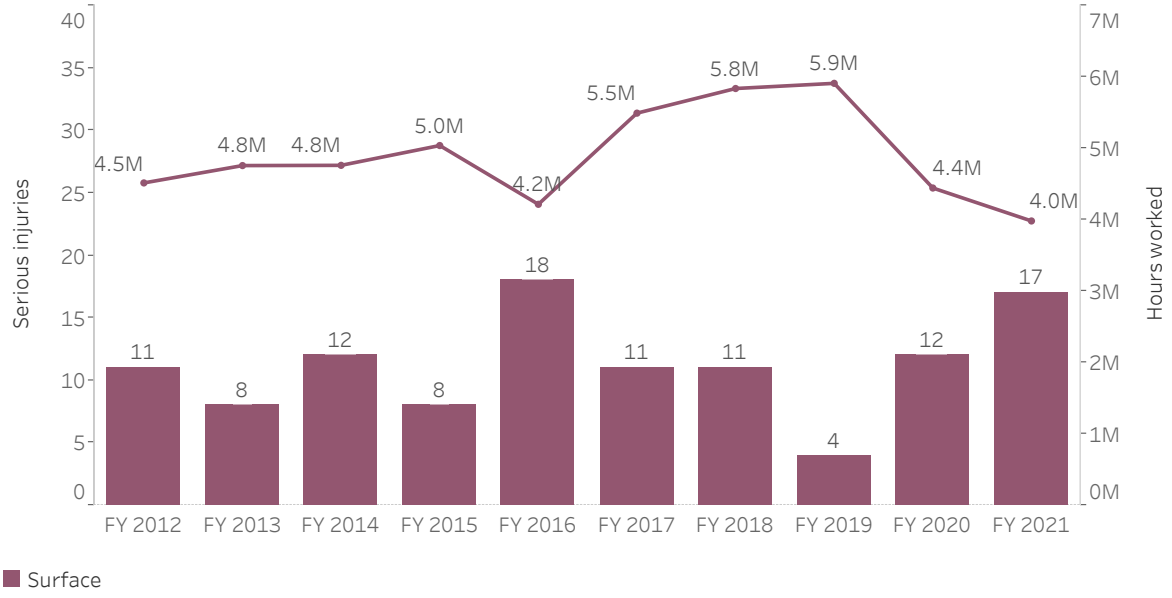
FIGURE 58: **EXTRACTIVES SECTOR FATAL INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Serious injuries

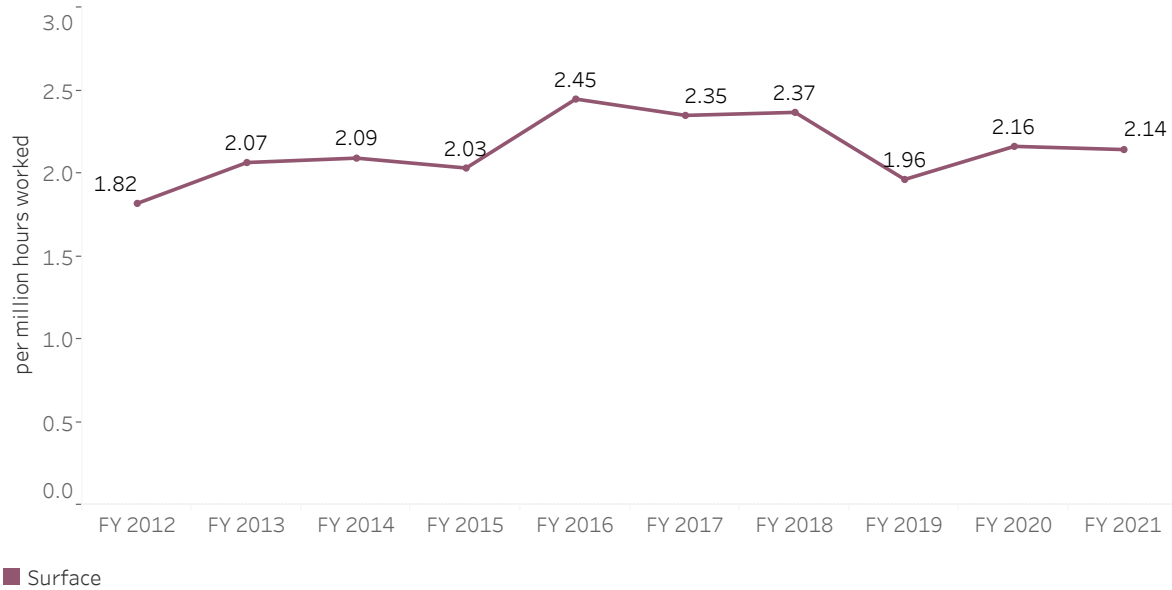
Serious injuries and hours worked

FIGURE 59: **EXTRACTIVES SECTOR SERIOUS INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Serious injury frequency rates

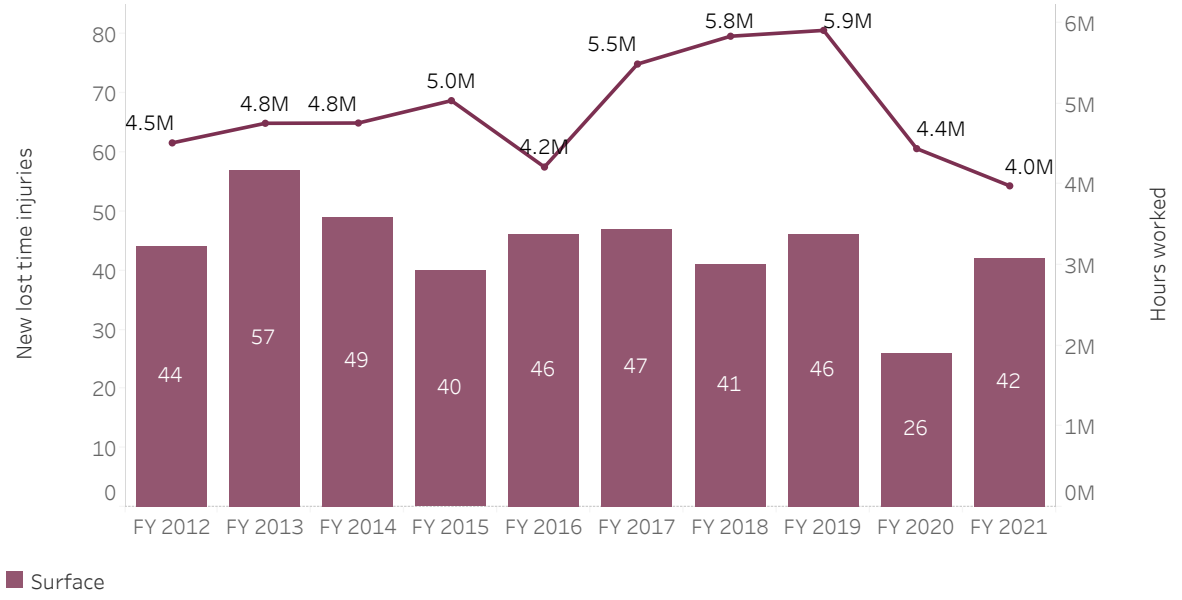
FIGURE 60: **EXTRACTIVES SECTOR ROLLING FIVE-YEAR SIFR 2011-12 TO 2020-21**



Lost time injuries

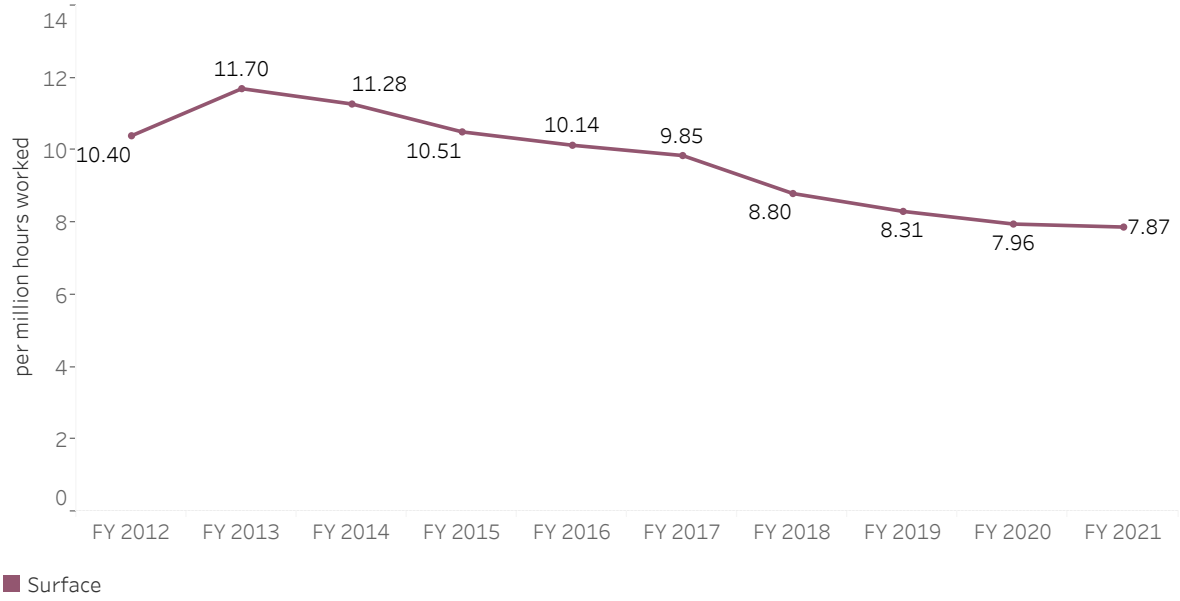
Lost time injuries and hours worked

FIGURE 61: **EXTRACTIVES SECTOR LOST TIME INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Lost time injury frequency rates

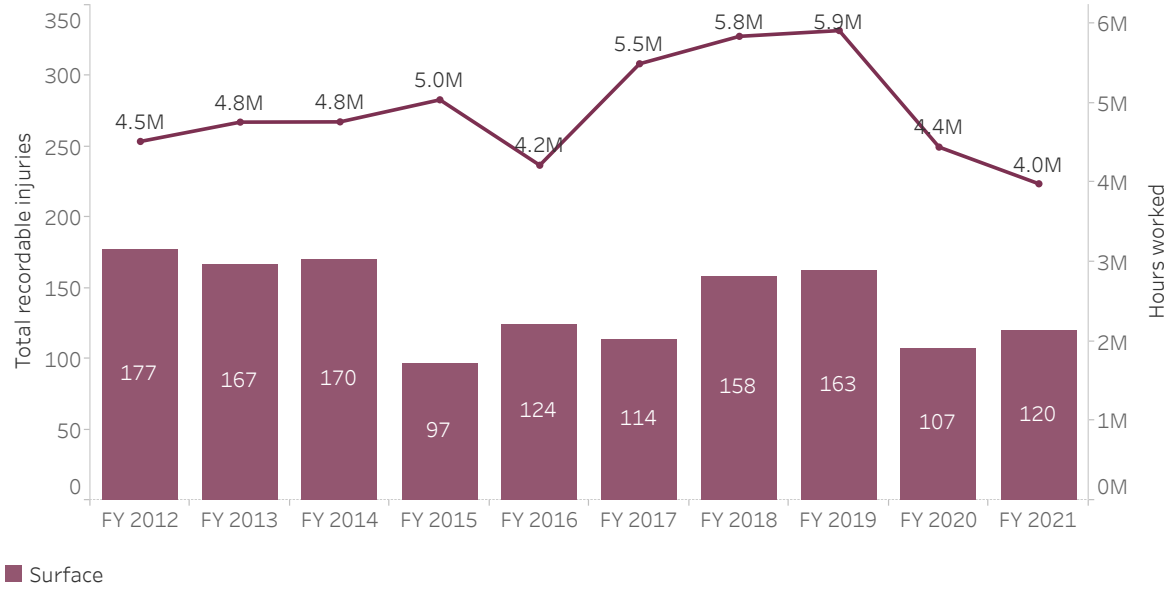
FIGURE 62: **EXTRACTIVES SECTOR ROLLING FIVE-YEAR LTIFR 2011-12 TO 2020-21**



Total recordable injuries

Total recordable injuries and hours worked

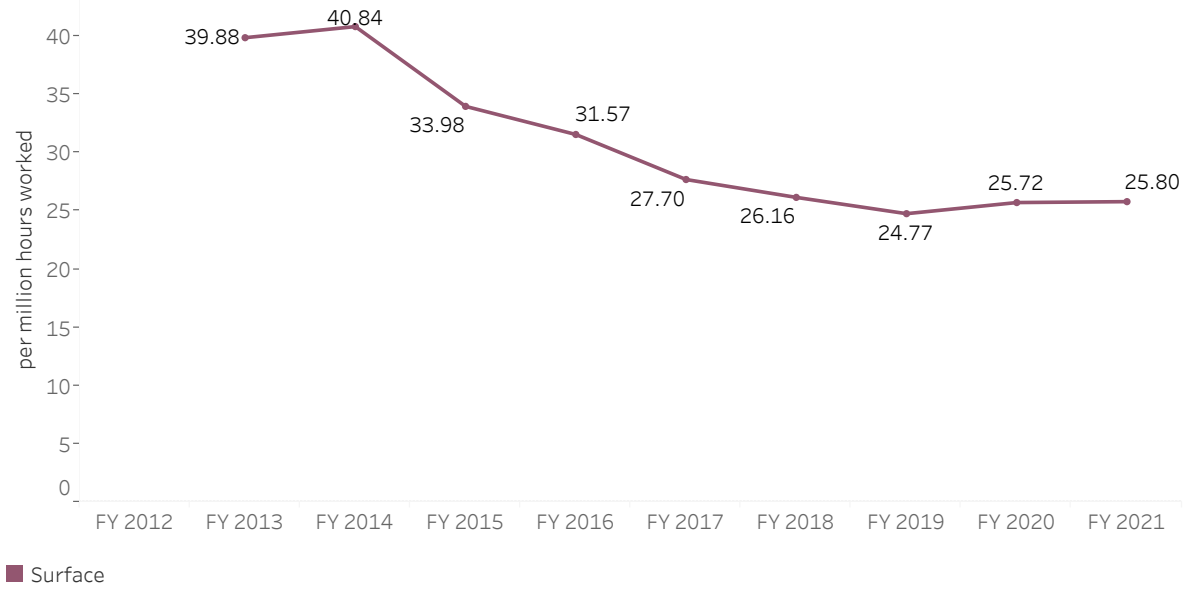
FIGURE 63: **EXTRACTIVES SECTOR TOTAL RECORDABLE INJURIES AND HOURS WORKED 2011-12 TO 2020-21**



Total recordable injury frequency rates

Note: A rolling five-year average TRIFR frequency rate was unable to be calculated for the whole ten-year reporting period as this information was only included in extractives work health and safety reporting requirements from the second quarter of 2008-09.

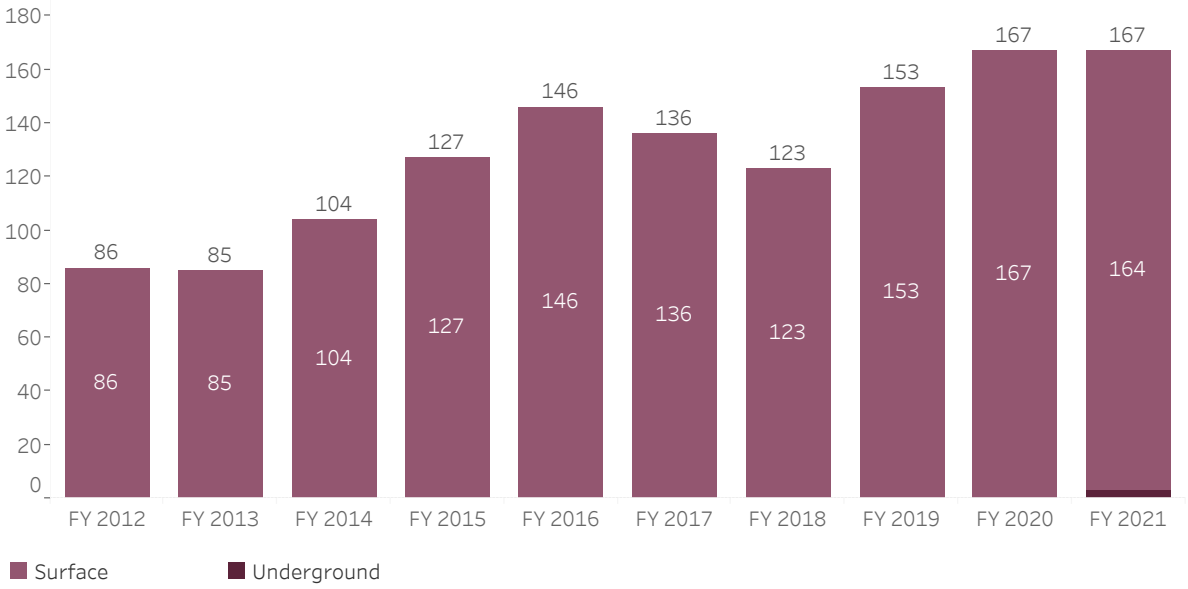
FIGURE 64: **EXTRACTIVES SECTOR ROLLING FIVE-YEAR AVERAGE TRIFR 2012-13 TO 2020-21**



Notified incidents

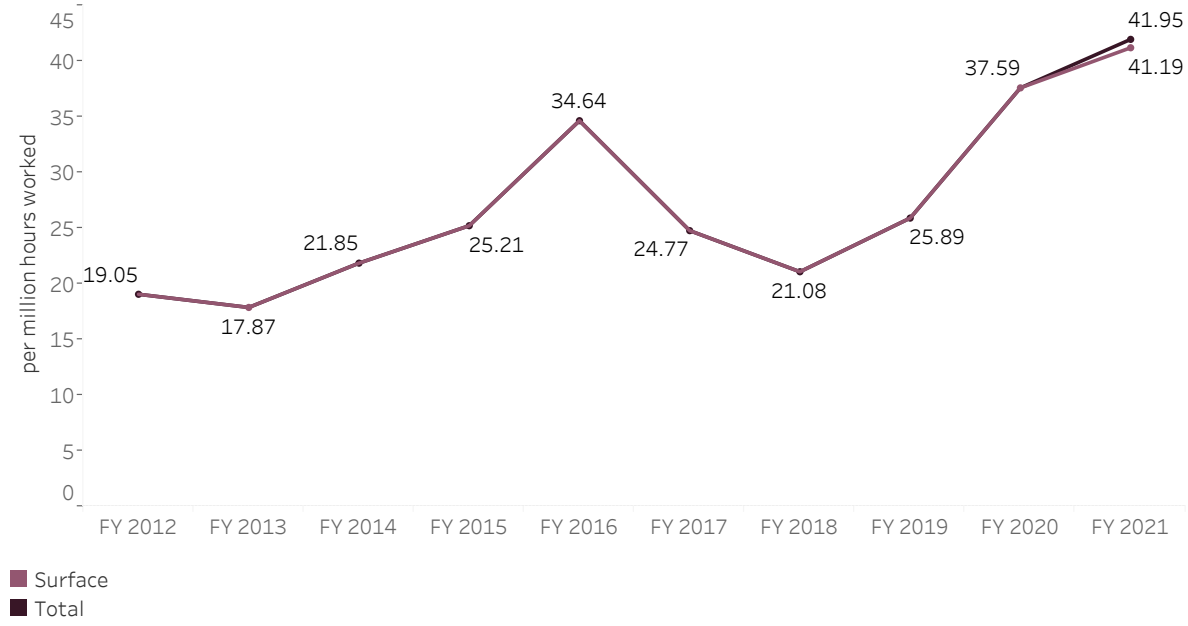
Notified incidents by operation type

FIGURE 65: **EXTRACTIVES SECTOR NOTIFIED INCIDENTS BY OPERATION TYPE 2011-12 TO 2020-21**



Incident notification frequency rates

FIGURE 66: **EXTRACTIVES SECTOR INFR 2011-12 TO 2020-21**



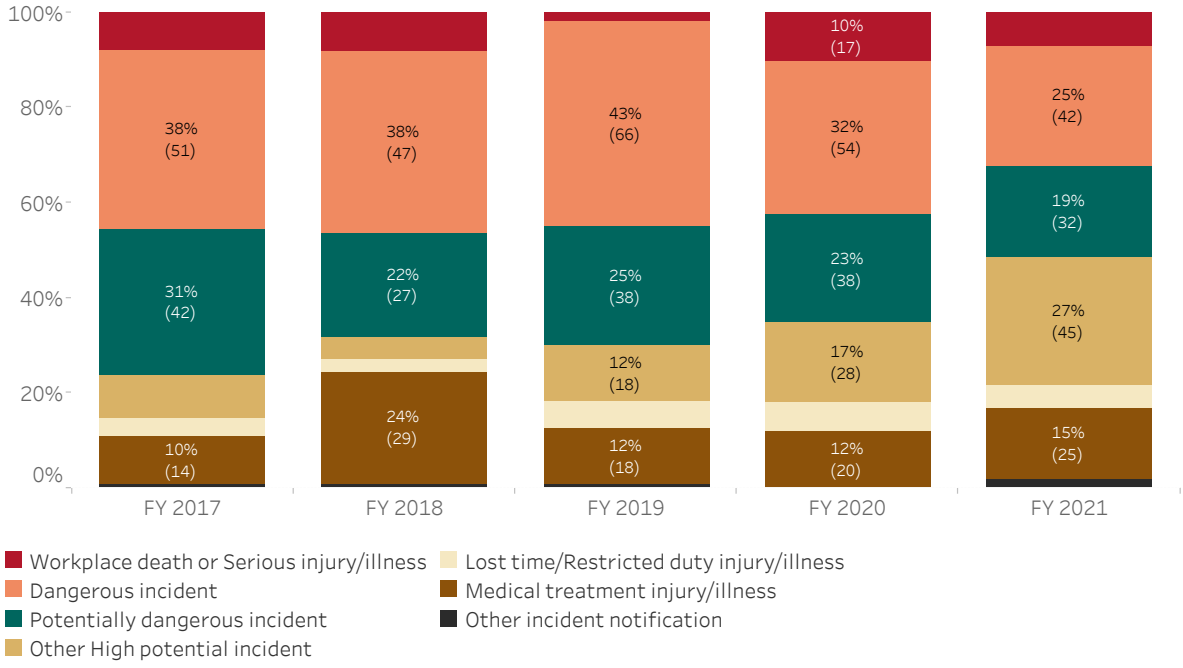
Incident notification reporting trends

INCIDENT NOTIFICATION PROFILE

Incident notification data allows the Regulator to monitor compliance and respond to sector specific reporting trends. Multiple contributing factors influence the types of incidents notified by each sector. These include, but are not limited to, the legislative framework, inherent hazards and characteristics of each operation as well as the commodity produced.

The figure below shows a breakdown of the types of incidents notified by the extractives sector since 2016-17, including notifications for incidents unrelated to injury and illness. Comparable results were observed across the four-year period.

FIGURE 67: **EXTRACTIVES SECTOR INCIDENT NOTIFICATION PROFILE 2016-17 TO 2020-21**



PROPORTION OF EXTRACTIVE MINES NOTIFYING INCIDENTS

While the number of metalliferous mines notifying incidents has increased by almost 50% in the ten years since 2011-12 (from 61 to 91 in 2020-21), the proportion of mines notifying incidents has remained relatively steady. On average, only 3% of active metalliferous mines notified the Regulator of an incident every year within the ten-year reporting period.

The table below excludes exploration and the numbers will be different to those previously reported due to the changes in work health and safety reporting requirements during 2020 as outlined in the Explanatory notes.

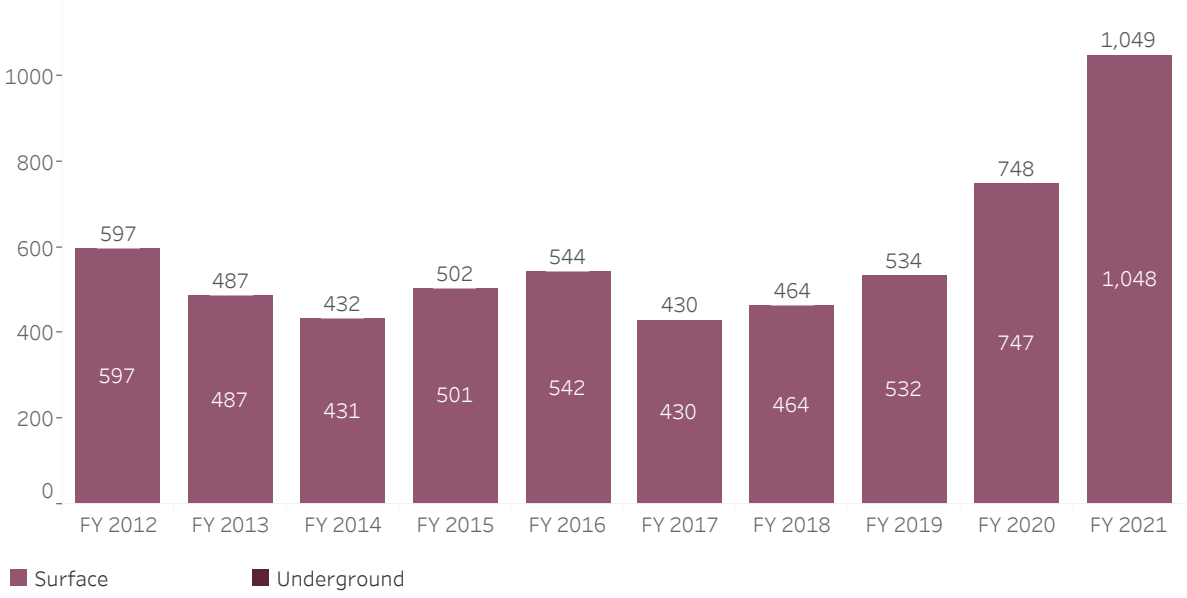
TABLE 5: **EXTRACTIVES SECTOR PROPORTION OF MINES THAT NOTIFIED AN INCIDENT 2011-12 TO 2020-21**

MEASURE	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total number of notified incidents	86	85	104	127	146	136	123	153	167	167
Number of active mines	2,307	2,388	2,419	2,476	2,583	2,524	2,553	2,501	2,534	2,489
Number of mines that notified an incident	61	54	63	68	78	70	73	79	76	91
% of mines that notified an incident	3%	2%	3%	3%	3%	3%	3%	3%	3%	4%

Notices issued

Notices issued by operation type

FIGURE 68: **EXTRACTIVES SECTOR NOTICES ISSUED BY OPERATION TYPE 2011-12 TO 2020-21**

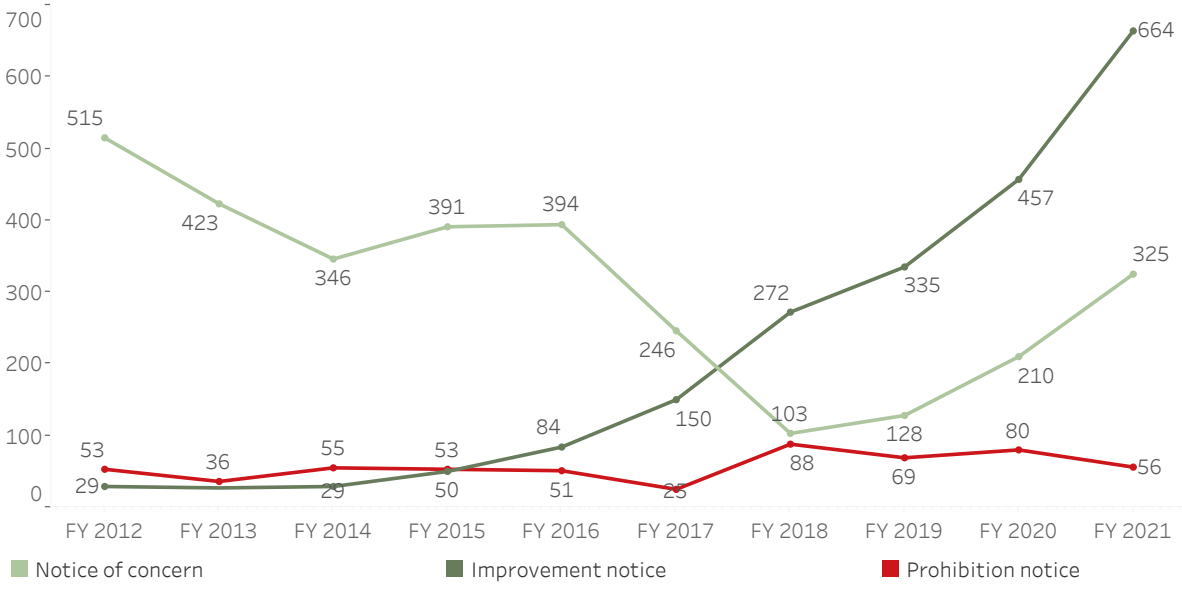


Notices issued by notice type

Since 2017-18, changes to the type of notices issued reflect the Regulator's renewed focus on incident prevention as outlined in its Compliance and Enforcement Approach. The approach sought to clearly identify matters that necessitate the issue of an improvement notice rather than a written notice of concern.

Due to the minimal numbers of non-disturbance and explosives notices, these have not been included in the figure below.

FIGURE 69: **EXTRACTIVES SECTOR NOTICES ISSUED BY NOTICE TYPE 2011-12 TO 2020-21**



Appendices

Appendices

Appendix 1. Definitions

Injury type

INJURY TYPE	DEFINITION
Fatal injury (FI)	A work-related injury or illness that results in death.
Permanent incapacity injury (PII)	A work-related injury or illness that resulted in permanent incapacity that occurred during the reporting period - with an upper limit of 12 months assigned to the days lost.
Lost time injury (LTI)	A work-related injury or illness that results in a minimum of one full shift absence (AS1885.1 – 1990).
Restricted duty injury (RDI)	A work-related injury or illness resulting in the affected person returning to alternative or restricted duties.
Medical treatment injury (MTI)	A work-related injury or illness requiring medical treatment.
Total recordable injuries (TRI)	The sum of fatal injuries, permanent incapacity injuries, lost time injuries, restricted duty injuries and medical treatment injuries.
Serious injury (SI)	A work-related injury or illness where the nature of injury or illness is defined by the relevant legislation. Serious injuries and illnesses are defined in section 178 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 (the Regulation), and include injuries and illnesses requiring immediate treatment for; amputation of any part of the body, serious head injury, serious eye injury, serious burn, separation of skin from underlying tissue, spinal injury, the loss of a bodily function, serious laceration a fracture to bone excluding hand or foot are included within the definition as well as any injury or illness, irrespective of its nature, that results in immediate treatment as an in-patient in hospital. With the commencement of the Regulation on 1 February 2015, the definition of a serious injury was expanded to include additional injury and illness types, as well as any injury or illness irrespective of its nature, that results in immediate treatment as an in-patient in a hospital. In general, a serious injury under this definition is not directly comparable to definitions in other mining jurisdictions or SafeWork Australia. Prior to commencement of the WHS (MPS) Act, an injury was classified as serious if it was reported under clauses 55(a)(i)-(vi) or 55(c)(v) of the Coal Mine Health and Safety Regulation 2006 (CMHSR) or clauses 145(a)(i)-(vi) or 145(c)(iv) of the Mine Health and Safety Regulation 2007 (MHSR) – these did not include injuries resulting in hospital inpatient admission or loss of consciousness. If any injury – serious or non-serious – resulted in hospital inpatient admission and loss of consciousness, the applicable clauses, CMHSR 55(a)(vii) and 55(b) and MHSR 145(a)(vii) and 145(b), were recorded as injury outcomes. Until the inclusion of the petroleum sector in the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 in February 2016, petroleum sector serious injuries were notified at a lower threshold under the Petroleum (Onshore) Schedule 1992, 301(1).

Injury classifications

Fatal and serious injuries and illnesses are classified according to the Australian Safety and Compensation Council 'Type of occurrence classification system (TOOCS)' and in this report are based on the TOOCS major groups.

Note that to provide further detail of bodily locations on the fatal and serious body maps in Figures 8 and 13, 'hand or fingers' and 'wrist' are shown separately from the major group 'upper limbs', and 'foot or toes' and 'ankle' are shown separately from the major group 'lower limbs'.

Further details of the Australian Safety and Compensation Council Type of occurrence classification system (TOOCS) can be found here.

Incidents

TERM	DEFINITION
Notified incident	Mine operators must report certain types of safety incidents if they arise out of conducting business or performing any mining activities at a mine or petroleum site. The legislation applicable to the incident notifications in this report, and the incident notification types under the current legislation are listed below. Note that any multiple gas exceedances that were reported to the Regulator in a single incident notification have been included as individual incident notifications in this report.

Legislation applicable to incident notifications in this report

LEGISLATION	COMMENCED	STATUS
Petroleum (Onshore) Schedule 1992	1/08/1992	Repealed
Coal Industry Act 2001	1/01/2002	Current
Explosives Regulation 2005	1/09/2005	Repealed
Coal Mine Health and Safety Act 2002 Coal Mine Health and Safety Regulation 2006	23/12/2006	Repealed
Mine Health and Safety Act 2004 Mine Health and Safety Regulation 2007	1/09/2008	Repealed
Explosives Regulation 2013	1/09/2013	Current
Work Health and Safety (Mines and Petroleum Sites) Act 2013 Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	1/02/2015	Current

Incident notification types under current legislation

INCIDENT TYPE		LEGISLATION	SECTION OR CLAUSE
Death of a person		*Work Health and Safety (Mines and Petroleum Sites) Act 2013*	s 14(a)
Serious injury		*Work Health and Safety (Mines and Petroleum Sites) Act 2013*	s 14(b)
		Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 178
Dangerous incident		*Work Health and Safety (Mines and Petroleum Sites) Act 2013*	s 14(c)
		Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 179
High Potential incident	Potentially dangerous incident	Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 128(5)(a)
	Other high potential incident	Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 128(5)(b)-(v) (except those notified under cl 128 (5)(n) and cl 128(5)(o))
	Lost time/ Restricted duty injury/illness >= 7 days	Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 128(5)(n) cl 128(5)(o)
Medical treatment injury		Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 128(1)(a)
Other incidents	Loss or theft of explosives	Explosives Regulation 2013	cl 102
	Serious incident involving explosives		cl 103
	Event at mine rescue station	*Coal Industry Act 2001*	s 45

Work health and safety report

Under clause 130 of the Work Health and Safety (Mine and Petroleum Sites) Regulation 2014 (and relevant former legislation), mine operators are required to submit work health and safety reports to the Regulator. In accordance with Schedule 9 to the regulation, reports must contain relevant information about injuries and illnesses occurring in the year, as well as other information such as the total number of hours worked at the mine. This information is used for preparing key injury measures for coal, metalliferous and extractives mining sectors including frequency rates.

Notice categories

NOTICE CATEGORY	DEFINITION	LEGISLATION AND NOTICE TYPE		
Notice of concern	Notice raising concerns regarding health, safety or welfare to the attention of operators.	*Coal Mine Health and Safety Act 2002 (repealed 1 Feb 2015)*	s 150	Bringing of concerns regarding health, safety or welfare to the attention of operators
		Mine Health and Safety Act 2004 (repealed 1 Feb 2015	s 131	Bringing of concerns regarding health, safety or welfare to the attention of operators
		Work Health and Safety (Mines and Petroleum Sites) Act 2013	s 23	Notice of concern
Improvement notice	Notice directing remedy or prevention of a contravention or potential contravention.	*Occupational Health and Safety Act 2000 (repealed 1 Jan 2012)*	s 91	Issue of improvement notices
		Work Health and Safety Amendment Act 2011	s 191	Issue of improvement notices
Prohibition notice	Notice prohibiting carrying on of an activity or carrying on of an activity in a way that involves or will involve serious risk to health and safety. In an underground mine this may require removal of workers from underground areas.	*Occupational Health and Safety Act 2000 (repealed 1 Jan 2012)*	s 93	Issue of prohibition notices
		Coal Mine Health Safety Regulation 2006 *(repealed 1 Feb 2015)*	cl 51	Chief Inspector may impose prohibitions or restrictions or direct evacuation or closure of coal operation
		Mine Health Safety Regulation 2007 *(repealed 1 Feb 2015)*	cl 158	Chief Inspector may impose prohibitions or restrictions or direct evacuation or closure of mine
		Work Health and Safety Act 2011	s 195	Power to issue prohibition notices
Non-disturbance notice	Notice requiring the person to preserve the site or prevent the disturbance of a particular site.	*Occupational Health and Safety Act 2000 (repealed 1 Jan 2012)*	s 89	Investigation notice to stop plant or prevent disturbance of premises to allow investigation
		Work Health and Safety Act 2011	s 198	Issue of a non-disturbance notice

Frequency rates

TERM	DEFINITION
Fatal injury frequency rate (FIFR)	The number of fatal injuries and illnesses, per million hours worked.
Lost time injury frequency rate (LITFR)	The number of lost time injuries and illnesses, per million hours worked.
Serious injury frequency rate (SIFR)	The number of serious injuries and illnesses, per million hours worked.
Total recordable injury frequency rate (TRIFR)	The total number of fatal, lost time, medical treatment and restricted duties injuries and illnesses, per million hours worked.
Incident notification frequency rate (INFR)	The number of notified incidents, per million hours worked.
Rolling five-year rates	The total number of injuries/illnesses or incidents in five years divided by total hours worked in five years, per million hours worked.

Appendix 2. Mine definitions

This appendix is included to help readers understand the different types of mines and how they are classified into mining sectors.

Mining sectors and mine types

MINING SECTOR	MINE TYPE	INCLUDES/EXCLUDES EXPLORATION*
Coal mines	• Coal • Declared plant - CPP	Excludes exploration
Metalliferous mines	• Metals • Mineral sands	Excludes exploration
Extractive mines	• Construction materials • Industrial minerals	Excludes exploration
Petroleum and Geothermal sites	• Petroleum • Geothermal	Includes exploration
Opal mines	• Small Scale Titles • Opal claims • Gemstones or precious stones with Operation type of Opal Mining (All Types)	Excludes exploration
Exploration sites	• Excludes Petroleum and Geothermal sites	Includes exploration
Other mines	• Gemstones or precious stones (excluding Operation type of Opal Mining (All Types)) • Readymix or bitumen • Ancillary to mining • Waste mining • Treatment plant	Excludes exploration

*Exploration includes operation types of drilling and exploration

Mine operation types

MINE SECTOR	MINE SECTOR OPERATION TYPE	MINE OPERATION TYPE
Coal mines Metalliferous mines Extractive mines Opal mines Other mines	Underground	• Underground
	Surface	• Borrow pit • Dredging • Opal mining (all types) • Open cut • Processing
Petroleum and geothermal	Surface	• Drilling • Exploration • Pilot • Processing • Production
Exploration (excluding petroleum and geothermal)	Surface	• Drilling • Exploration

Active mines

Active mines include mines that are:

- open
- operate intermittently
- under care and maintenance
- open tourist mines
- planned mines
- small-scale titles that are current or pending.

Appendix 3. Sector data

Surface coal mines

Coal Surface	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Active mines	54	54	54	53	57	68	68	77	79	76
Hours worked	31,709,298	31,575,110	29,115,708	27,971,027	26,274,561	27,656,810	29,264,621	34,168,786	33,619,129	32,269,075
Full time equivalent workers	15,855	15,788	14,558	13,986	13,137	13,828	14,632	17,084	16,810	16,135
Fatal injuries	0	0	2	0	0	1	0	1	0	0
Fatal injury 5 year average frequency rate	0.000	0.000	0.014	0.014	0.014	0.021	0.021	0.014	0.013	0.013
Serious injuries	39	33	23	20	21	25	23	13	25	27
Serious injury 5 year average frequency rate	1.11	1.10	1.02	0.95	0.93	0.86	0.80	0.70	0.71	0.72
Lost time injuries	89	82	55	40	52	53	73	93	78	90
Lost time injury 5 year average frequency rate	2.87	2.82	2.50	2.18	2.17	1.98	1.95	2.14	2.31	2.47
Total recordable injuries	241	217	170	154	171	171	192	199	156	198
Total recordable injury 5 year average frequency rate	9.87	8.74	7.72	6.90	6.50	6.19	6.12	6.10	5.89	5.84
Incident notifications	594	635	646	451	515	456	583	610	592	658
Incident notification annual frequency rate	18.73	20.11	22.19	16.12	19.60	16.49	19.92	17.85	17.61	20.39
% of mines that notified an incident	91%	83%	81%	75%	72%	62%	66%	58%	59%	59%
Workplace death or Serious injury/illness notifications						17	23	13	17	29
Dangerous Incident notifications						117	173	165	154	93
Potentially dangerous incident notifications						167	176	190	178	129
Other High Potential incident notifications						65	103	115	141	251
Lost time/Restricted duty injury/illness >= 7 days notifications						37	46	83	70	108
Medical treatment injury notifications						48	58	36	28	40
Other incident notifications						5	4	8	4	8
Notices issued	222	245	225	247	261	134	207	271	298	283
Notices of concern issued	178	220	185	196	155	63	65	78	121	107
Improvement notices issued	11	11	15	31	71	58	105	153	151	146
Prohibition notices issued	32	12	21	18	22	13	33	34	21	29
Non-disturbance notices issued	1	2	4	2	13		4	6	5	1

Underground coal mines

Coal Underground	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Active mines	31	30	29	30	38	43	43	46	43	42
Hours worked	20,962,203	21,350,886	18,977,766	14,863,344	13,461,814	13,439,336	13,797,079	14,932,163	14,218,301	13,672,292
Full time equivalent workers	10,481	10,675	9,489	7,432	6,731	6,720	6,899	7,466	7,109	6,836
Fatal injuries	0	0	2	0	0	0	0	0	0	0
Fatal injury 5 year average frequency rate	0.045	0.042	0.031	0.032	0.022	0.024	0.027	0.000	0.000	0.000
Serious injuries	86	92	63	58	37	51	29	53	45	42
Serious injury 5 year average frequency rate	4.64	4.47	4.22	3.95	3.75	3.67	3.19	3.23	3.08	3.14
Lost time injuries	187	162	161	114	106	128	111	125	119	115
Lost time injury 5 year average frequency rate	11.95	10.53	9.62	8.90	8.15	8.17	8.32	8.28	8.43	8.54
Total recordable injuries	788	639	641	440	410	402	452	430	379	358
Total recordable injury 5 year average frequency rate	52.82	42.96	38.78	35.15	32.56	30.84	31.46	30.27	29.68	28.85
Incident notifications	2,024	1,990	1,650	1,360	1,378	1,133	1,055	1,000	1,076	891
Incident notification annual frequency rate	96.55	93.20	86.94	91.50	102.36	84.30	76.47	66.97	75.68	65.17
% of mines that notified an incident	106%	107%	110%	107%	74%	67%	70%	57%	65%	57%
Workplace death or Serious injury/illness notifications						41	30	43	37	43
Dangerous Incident notifications						112	90	89	106	68
Potentially dangerous incident notifications						212	212	175	175	126
Other High Potential incident notifications						538	480	414	441	390
Lost time/Restricted duty injury/illness >= 7 days notifications						147	108	184	231	208
Medical treatment injury notifications						83	135	95	86	56
Other incident notifications						0	0	0	0	0
Notices issued	381	380	419	524	442	412	368	382	265	473
Notices of concern issued	320	338	367	434	279	172	91	137	103	166
Improvement notices issued	7	8	19	47	106	187	188	194	130	273
Prohibition notices issued	48	28	30	39	51	43	83	42	32	31
Non-disturbance notices issued	6	6	3	4	6	10	6	9	0	3

All coal mines

Coal Total	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Active mines	85	84	83	83	95	111	111	123	122	118
Hours worked	52,671,501	52,925,996	48,093,474	42,834,371	39,736,375	41,096,146	43,061,700	49,100,948	47,837,430	45,941,367
Full time equivalent workers	26,336	26,463	24,047	21,417	19,868	20,548	21,531	24,550	23,919	22,971
Fatal injuries	0	0	4	0	0	1	0	1	0	0
Fatal injury 5 year average frequency rate	0.019	0.018	0.021	0.021	0.017	0.022	0.023	0.009	0.009	0.009
Serious injuries	125	125	86	78	58	76	52	66	70	69
Serious injury 5 year average frequency rate	2.63	2.52	2.33	2.13	2.00	1.88	1.63	1.53	1.46	1.47
Lost time injuries	276	244	216	154	158	181	184	218	197	205
Lost time injury 5 year average frequency rate	6.78	6.07	5.42	4.81	4.44	4.24	4.16	4.15	4.25	4.34
Total recordable injuries	1,029	856	811	594	581	573	644	629	535	556
Total recordable injury 5 year average frequency rate	28.38	23.17	20.44	17.98	16.38	15.20	14.91	14.00	13.41	12.94
Incident notifications	2,618	2,625	2,296	1,811	1,893	1,589	1,638	1,610	1,668	1,549
Incident notification annual frequency rate	49.70	49.60	47.74	42.28	47.64	38.67	38.04	32.79	34.87	33.72
% of mines that notified an incident	96%	92%	92%	87%	73%	64%	68%	58%	61%	58%
Workplace death or Serious injury/illness notifications						58	53	56	54	72
Dangerous Incident notifications						229	263	254	260	161
Potentially dangerous incident notifications						379	388	365	353	255
Other High Potential incident notifications						603	583	529	582	641
Lost time/Restricted duty injury/illness >= 7 days notifications						184	154	267	301	316
Medical treatment injury notifications						131	193	131	114	96
Other incident notifications						5	4	8	4	8
Notices issued	603	625	644	771	703	546	575	653	563	756
Notices of concern issued	498	558	552	630	434	235	156	215	224	273
Improvement notices issued	18	19	34	78	177	245	293	347	281	419
Prohibition notices issued	80	40	51	57	73	56	116	76	53	60
Non-disturbance notices issued	7	8	7	6	19	10	10	15	5	4

Surface metalliferous mines

Metalliferous Surface	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Active mines	40	44	44	46	52	68	65	69	58	47
Hours worked	4,039,809	4,470,663	2,434,795	2,015,321	1,869,538	5,207,597	4,953,524	6,108,865	6,863,880	5,765,004
Full time equivalent workers	2,020	2,235	1,217	1,008	935	2,604	2,477	3,054	3,432	2,883
Fatal injuries	0	0	0	0	0	0	0	1	1	0
Fatal injury 5 year average frequency rate	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.050	0.080	0.069
Serious injuries	9	3	3	4	3	4	1	3	2	6
Serious injury 5 year average frequency rate	0.84	0.90	0.97	1.12	1.48	1.06	0.91	0.74	0.52	0.55
Lost time injuries	5	8	2	7	5	12	10	9	12	13
Lost time injury 5 year average frequency rate	1.14	1.47	1.37	1.40	1.82	2.13	2.18	2.13	1.92	1.94
Total recordable injuries	27	36	14	14	50	48	32	29	35	32
Total recordable injury 5 year average frequency rate		6.88	7.02	6.63	9.51	10.13	9.59	8.58	7.76	6.09
Incident notifications	42	43	47	38	51	52	27	48	48	63
Incident notification annual frequency rate	10.40	9.62	19.30	18.86	27.28	9.99	5.45	7.86	6.99	10.93
% of mines that notified an incident	25%	14%	16%	15%	12%	9%	12%	7%	17%	17%
Workplace death or Serious injury/illness notifications						2	1	6	3	4
Dangerous Incident notifications						23	12	22	24	21
Potentially dangerous incident notifications						15	9	10	14	9
Other High Potential incident notifications						3	2	4	3	14
Lost time/Restricted duty injury/illness >= 7 days notifications						0	0	2	0	5
Medical treatment injury notifications						8	3	4	3	10
Other incident notifications						1	0	0	1	0
Notices issued	18	67	27	28	30	29	55	72	99	122
Notices of concern issued	18	55	26	26	23	19	18	30	27	35
Improvement notices issued	0	3	1	1	6	7	26	38	56	78
Prohibition notices issued	0	9	0	1	0	3	9	4	16	9
Non-disturbance notices issued	0	0	0	0	1	0	2	0	0	0

Underground metalliferous mines

Metalliferous Underground	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Active mines	38	38	37	39	46	41	42	47	47	46
Hours worked	11,316,915	10,087,458	12,166,610	11,399,868	9,567,694	7,862,909	7,656,207	7,553,978	8,107,463	8,980,662
Full time equivalent workers	5,658	5,044	6,083	5,700	4,784	3,931	3,828	3,777	4,054	4,490
Fatal injuries	0	1	1	0	1	1	0	0	0	0
Fatal injury 5 year average frequency rate	0.000	0.023	0.041	0.037	0.055	0.078	0.062	0.045	0.049	0.025
Serious injuries	19	10	7	14	23	17	7	16	18	23
Serious injury 5 year average frequency rate	1.77	1.72	1.40	1.28	1.34	1.39	1.40	1.75	1.99	2.02
Lost time injuries	27	27	22	21	36	33	15	19	38	30
Lost time injury 5 year average frequency rate	3.92	3.32	2.85	2.29	2.44	2.72	2.61	2.82	3.46	3.36
Total recordable injuries	248	252	238	213	178	177	116	130	145	149
Total recordable injury 5 year average frequency rate		23.77	22.91	21.25	20.70	20.71	18.95	18.48	18.31	17.85
Incident notifications	153	176	166	176	184	187	214	214	248	263
Incident notification annual frequency rate	13.52	17.45	13.64	15.44	19.23	23.78	27.95	28.33	30.59	29.29
% of mines that notified an incident	45%	37%	51%	46%	43%	44%	43%	38%	36%	39%
Workplace death or Serious injury/illness notifications						17	7	11	16	15
Dangerous Incident notifications						73	85	90	98	89
Potentially dangerous incident notifications						43	53	45	40	33
Other High Potential incident notifications						16	35	34	38	63
Lost time/Restricted duty injury/illness >= 7 days notifications						5	3	14	34	31
Medical treatment injury notifications						32	30	19	22	31
Other incident notifications						1	1	1	0	1
Notices issued	60	79	52	55	91	150	200	428	321	389
Notices of concern issued	54	70	44	45	72	86	57	152	122	119
Improvement notices issued	0	0	2	3	12	41	117	236	172	224
Prohibition notices issued	6	6	3	2	7	19	24	39	26	44
Non-disturbance notices issued	0	3	3	5	0	4	2	1	1	2

All metalliferous mines

Metalliferous Total	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Active mines	78	82	81	85	98	109	107	116	105	93
Hours worked	15,356,724	14,558,121	14,601,405	13,415,189	11,437,232	13,070,506	12,609,731	13,662,844	14,971,343	14,745,666
Full time equivalent workers	7,678	7,279	7,301	6,708	5,719	6,535	6,305	6,831	7,486	7,373
Fatal injuries	0	1	1	0	1	1	0	1	1	0
Fatal injury 5 year average frequency rate	0.000	0.015	0.029	0.028	0.043	0.060	0.046	0.047	0.061	0.043
Serious injuries	28	13	10	18	26	21	8	19	20	29
Serious injury 5 year average frequency rate	1.45	1.45	1.28	1.24	1.37	1.31	1.27	1.43	1.43	1.40
Lost time injuries	32	35	24	28	41	45	25	28	50	43
Lost time injury 5 year average frequency rate	2.18	2.53	2.43	2.07	2.31	2.58	2.50	2.60	2.87	2.77
Total recordable injuries	282	288	252	227	228	225	148	159	180	188
Total recordable injury 5 year average frequency rate		18.19	18.47	17.71	18.41	18.19	16.58	15.37	14.30	13.03
Incident notifications	195	219	213	214	235	239	241	262	296	326
Incident notification annual frequency rate	12.70	15.04	14.59	15.95	20.55	18.29	19.11	19.18	19.77	22.11
% of mines that notified an incident	35%	24%	32%	29%	27%	22%	24%	20%	26%	28%
Workplace death or Serious injury/illness notifications						19	8	17	19	19
Dangerous Incident notifications						96	97	112	122	110
Potentially dangerous incident notifications						58	62	55	54	42
Other High Potential incident notifications						19	37	38	41	77
Lost time/Restricted duty injury/illness >= 7 days notifications						5	3	16	34	36
Medical treatment injury notifications						40	33	23	25	41
Other incident notifications						2	1	1	1	1
Notices issued	78	146	79	83	121	179	255	500	420	511
Notices of concern issued	72	125	70	71	95	105	75	182	149	154
Improvement notices issued	0	3	3	4	18	48	143	274	228	302
Prohibition notices issued	6	15	3	3	7	22	33	43	42	53
Non-disturbance notices issued	0	3	3	5	1	4	4	1	1	2

All extractives mines

Extractives Total	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Active mines	2307	2388	2419	2476	2583	2524	2553	2501	2,534	2489
Hours worked	4,513,877	4,756,896	4,760,178	5,037,677	4,214,459	5,491,300	5,836,284	5,908,653	4,442,693	3,981,119
Full time equivalent workers	2,257	2,378	2,380	2,519	2,107	2,746	2,918	2,954	2,221	1,991
Fatal injuries	0	0	0	2	0	0	0	0	0	1
Fatal injury 5 year average frequency rate	0.000	0.000	0.000	0.086	0.086	0.082	0.079	0.076	0.000	0.039
Serious injuries	11	8	12	8	18	11	11	4	12	17
Serious injury 5 year average frequency rate	1.82	2.07	2.09	2.03	2.45	2.35	2.37	1.96	2.16	2.14
Lost time injuries	44	57	49	40	46	47	41	46	26	42
Lost time injury 5 year average frequency rate	10.40	11.70	11.28	10.51	10.14	9.85	8.80	8.31	7.96	7.87
Total recordable injuries	177	167	170	97	124	114	158	163	107	120
Total recordable injury 5 year average frequency rate		39.88	40.84	33.98	31.57	27.70	26.16	24.77	25.72	25.80
Incident notifications	86	85	104	127	146	136	123	153	167	167
Incident notification annual frequency rate	19.05	17.87	21.85	25.21	34.64	24.77	21.08	25.89	37.59	41.95
% of mines that notified an incident	3%	2%	3%	3%	3%	3%	3%	3%	3%	4%
Workplace death or Serious injury/illness notifications						11	10	3	17	12
Dangerous Incident notifications						51	47	66	54	42
Potentially dangerous incident notifications						42	27	38	38	32
Other High Potential incident notifications						12	6	18	28	45
Lost time/Restricted duty injury/illness >= 7 days notifications						5	3	9	10	8
Medical treatment injury notifications						14	29	18	20	25
Other incident notifications						1	1	1	0	3
Notices issued	597	487	432	502	544	430	464	534	748	1049
Notices of concern issued	515	423	346	391	394	246	103	128	210	325
Improvement notices issued	29	27	29	50	84	150	272	335	457	664
Prohibition notices issued	53	36	55	53	51	25	88	69	80	56
Non-disturbance notices issued	0	1	2	8	15	9	1	2	1	4

Coal, metalliferous and extractives mines

Coal, Metalliferous and Extractives Total	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Active mines	2,470	2,554	2,583	2,644	2,776	2,744	2,771	2,740	2,761	2,700
Hours worked	72,542,102	72,241,013	67,455,057	61,287,237	55,388,066	59,657,951	61,507,715	68,672,445	67,251,465	64,668,152
Full time equivalent workers	36271	36121	33728	30644	27694	29829	30754	2,954	33626	32334
Fatal injuries	0	1	5	2	1	2	0	2	1	1
Fatal injury 5 year average frequency rate	0.014	0.016	0.021	0.027	0.027	0.035	0.033	0.023	0.019	0.019
Serious injuries	164	146	108	104	102	108	71	89	102	115
Serious injury 5 year average frequency rate	2.33	2.27	2.10	1.94	1.90	1.80	1.61	1.55	1.51	1.51
Lost time injuries	352	336	289	222	245	273	250	292	273	290
Lost time injury 5 year average frequency rate	5.75	5.66	5.18	4.62	4.39	4.32	4.19	4.18	4.27	4.28
Total recordable injuries	1,488	1,311	1,233	918	933	912	950	951	822	864
Total recordable injury 5 year average frequency rate		23.23	21.39	19.02	17.89	16.79	16.20	15.22	14.62	13.98
Incident notifications	2,899	2,929	2,613	2,152	2,274	1,964	2,002	2,025	2,131	2,042
Incident notification annual frequency rate	39.96	40.54	38.74	35.11	41.06	32.92	32.55	29.49	31.69	31.58
% of mines that notified an incident	7%	6%	6%	6%	6%	6%	6%	6%	6%	7%
Workplace death or Serious injury/illness notifications						88	71	76	90	103
Dangerous Incident notifications						376	407	432	436	313
Potentially dangerous incident notifications						479	477	458	445	329
Other High Potential incident notifications						634	626	585	651	763
Lost time/Restricted duty injury/illness >= 7 days notifications						194	160	292	345	360
Medical treatment injury notifications						185	255	172	159	162
Other incident notifications						8	6	10	5	12
Notices issued	1,278	1,258	1,155	1,356	1,368	1,155	1,294	1,687	1,731	2,316
Notices of concern issued	1,085	1,106	968	1,092	923	586	334	525	583	752
Improvement notices issued	47	49	66	132	279	443	708	956	966	1,385
Prohibition notices issued	139	91	109	113	131	103	237	188	175	169
Non-disturbance notices issued	7	12	12	19	35	23	15	18	7	10

Appendix 4. Other sectors

NSW Resources Regulator

SECTOR REPORTING

Petroleum and geothermal

Onshore petroleum and geothermal sites (includes exploration)

Opal mines

Small scale titles and opal claims, gemstones or precious stones (excludes exploration)

Exploration

Exploration sites (excludes petroleum and geothermal)

Petroleum and geothermal sector

FATAL INJURIES, SERIOUS INJURIES, NOTIFIED INCIDENTS AND ACTIVE MINES

In 2020-21 there were no fatal injuries, serious injuries or notified incidents in the petroleum and geothermal sector. In the ten years since 2011-12, there has been no fatal injuries or serious injuries and only 14 notified incidents.

The petroleum and geothermal sector is not required to submit work health and safety reports and so frequency rates for these measures are not able to be calculated.

In the 2020-21, there were 181 active petroleum and geothermal sites, a decrease of 7% compared to 2019-20.

TABLE: **PETROLEUM AND GEOTHERMAL SECTOR FATAL INJURIES, SERIOUS INJURIES AND NOTIFIED INCIDENTS 2011-12 TO 2020-21**

MEASURE	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	TOTAL
Fatal injuries	0	0	0	0	0	0	0	0	0	0	0
Serious injuries	0	0	0	0	0	0	0	0	0	0	0
Notified incidents	2	1	4	4	3	0	0	0	0	0	14
Number of active mines	53	270	283	258	239	405	403	267	194	181	N/A

NOTICES ISSUED

In 2020-21 the Regulator issued 15 notices to the petroleum and geothermal sector, comprising seven improvement notices, five notices of concern and three prohibition notices.

TABLE: **PETROLEUM AND GEOTHERMAL SECTOR NOTICES ISSUED 2011-12 TO 2020-21**

MEASURE	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	TOTAL
Notices issued	0	0	0	0	1	0	9	0	8	15	33

Opal sector

FATAL INJURIES, SERIOUS INJURIES, NOTIFIED INCIDENTS AND ACTIVE MINES

In 2020-21 there was one fatal injury, no serious injuries and one notified incident in the opal sector. In the ten years since 2011-12 there has been two fatal injuries, eight serious injuries and 22 notified incidents in the opal sector.

The opal sector is not required to submit work health and safety reports so frequency rates for these measures are not able to be calculated.

In 2020-21, there were 3,342 active opal mines, a decrease of 15% from 2019-20.

TABLE: **OPAL SECTOR FATAL INJURIES, SERIOUS INJURIES, NOTIFIED INCIDENTS AND NUMBER OF ACTIVE MINES 2011-12 TO 2020-21**

MEASURE	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	TOTAL
Fatal injuries	0	0	0	0	0	1	0	0	0	1	2
Serious injuries	0	0	0	1	2	0	2	2	1	0	8
Notified incidents	0	1	4	1	4	1	4	4	2	1	22
Number of active mines	3,500	3,500	3,500	3,288	3,354	3,487	3,478	3,564	3,944	3,342	N/A

NOTICES ISSUED

In 2020-21 the Regulator issued 105 notices in the opal sector, comprising 90 improvement notices, ten prohibition notices and four notices of concern. Due to the minimal numbers of non-disturbance and explosives notices, these have not been included in the table below.

TABLE: **OPAL SECTOR NOTICES ISSUED 2011-12 TO 2020-21**

MEASURE	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	TOTAL
Notices issued	0	1	3	16	1	159	63	72	162	105	583

Exploration sector

FATAL INJURIES, SERIOUS INJURIES, NOTIFIED INCIDENTS AND ACTIVE MINES

In 2020-21 there were no fatal injuries, two serious injuries and six notified incidents in the exploration sector. In the ten years since 2011-12, there has been no fatal injuries, 19 serious injuries and 58 notified incidents.

From June 2020 the exploration sector was not required to submit work health and safety reports and therefore frequency rates for these measures have not been calculated.

In the 2020-21, there were 839 active exploration sites excluding petroleum and geothermal, a 7% increase from 2019-20.

TABLE: **EXPLORATION SECTOR FATAL INJURIES, SERIOUS INJURIES, NOTIFIED INCIDENTS AND NUMBER OF ACTIVE MINES 2011-12 TO 2020-21**

MEASURE	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	TOTAL
Fatal injuries	0	0	0	0	0	0	0	0	0	0	0
Serious injuries	1	2	2	2	0	1	5	3	3	2	21
Notified incidents	9	4	5	7	3	6	9	6	9	6	64
Number of active mines	721	823	872	876	822	714	715	753	785	839	N/A

NOTICES ISSUED

In 2020-21 the Regulator issued eight notices to the exploration sector (including five improvement notices and three prohibition notices).

TABLE: **EXPLORATION SECTOR NOTICES ISSUED 2011-12 TO 2020-21**

MEASURE	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	TOTAL
Notices issued	11	6	3	5	6	2	3	5	11	8	60