# Mine safety performance report

2022-23

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## Mine safety performance overview





#### 83 serious injuries

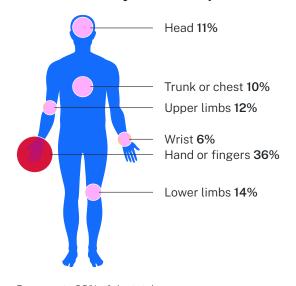
↓ Decrease from 88 in 2021–22

Overall increases were observed in serious injuries to head or neck, and lower and upper limbs. Refer to the main report for a detailed analysis of serious injuries and illnesses including bodily location from 2012–13 and nature, mechanism and employment type from 2019–20.



#### Fatal and serious injuries

#### Fatal and serious injuries snapshot



Represents 88% of the total

#### **Mechanism**

Being hit by moving objects	46%
Falls, trips and slips of a person	30%

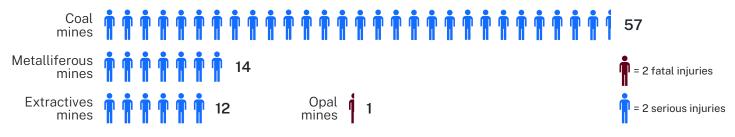
Represents 76% of the total

#### Nature of injury

Fractures	<b>52</b> %
Wounds, lacerations, amputations and internal organ damage	33%

Represents 86% of the total

#### Fatal and serious injuries by sector





#### 205 lost time injuries

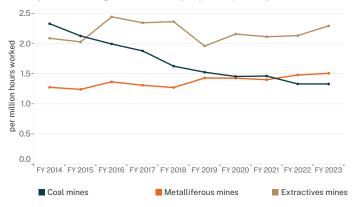


### **767** total recordable injuries

↑ Increase from 758 in 2021–22

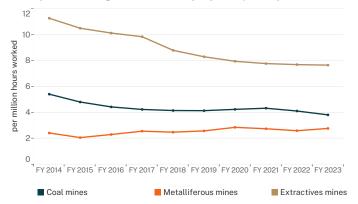


#### Five-year average serious injury frequency rate





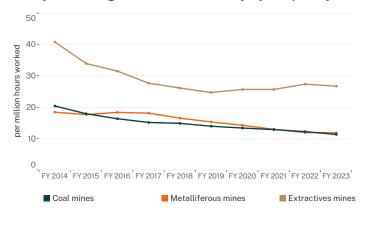
#### Five-year average lost time injury frequency rate





#### TRIFR

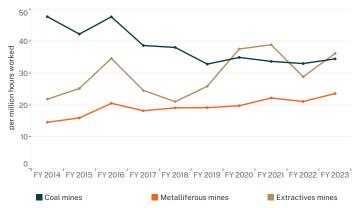
#### Five-year average total recordable injury frequency rate





#### **INFR**

#### Annual incident notification frequency rate

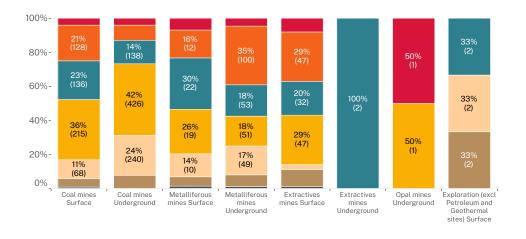




#### **2,151** incidents

1.900 in 2021–22

#### Incident notification profile 2022-23

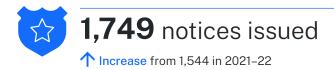


- Workplace death or serious injury/illness

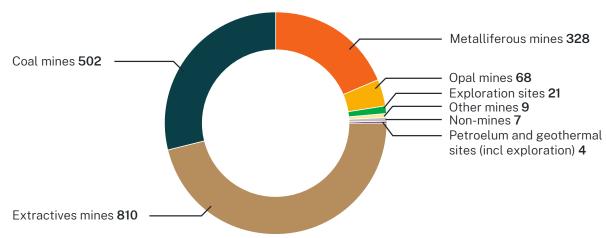
  Dangerous incident
- Potentially dangerous incident

  Other high potential incident
- Lost time/restricted duty injury/illness

  Medical treatment injury/illness
- Other incident notification



#### Notices issued by sector



#### Notices issued by type







Note: 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.

#### Further information

This overview was first published in December 2023 with data current at November 2023.

Visit our website for more information.

### **Executive summary**

This report provides an overview of the NSW mining industry's health and safety performance for financial year 2022–23, as reported to the NSW Resources Regulator. It compares safety indicators over the 10 years from 2013–14 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 to guide regulatory activity.

Work health and safety regulatory intervention has been in place in the Australian mining industry for more than a century. Significant ongoing efforts continue by the NSW mining industry and the Regulator to minimise the health and safety risks to workers. In 2022–23 there was one fatality, 83 serious injuries, 205 lost time injuries and 767 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 10 years, 'being hit by moving objects' followed by 'vehicle incidents', have been the most common hazard mechanisms in fatal injuries.

The total number of serious injuries have decreased, representing the lowest number since 2017–18. Lost time injuries have also decreased, with the lowest number seen in past 10 years. This continues a steady decline in overall industry frequency rates observed since 2013–14. Total recordable injuries showed a minimal increase, but still recorded the second-lowest figure over the last 10 years.

The number of hours worked increased for the first time since 2018–19. In 2022–23 the total recorded number of hours worked was 66.7m, up 6% from 63.1m in 2021–22.

An overall downward trend was observed in the incident notification frequency rate for the combined coal, metalliferous and extractives sectors during the 10-year reporting period, although increases in all sectors were seen during 2022–23 compared to the previous year. The increase was most pronounced in the extractives sector where the frequency rate rose by 26% after a notable decrease in 2021–22.

In 2022–23, 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 underground metalliferous and surface extractives sectors since 2017–18, while potentially dangerous incidents were the highest proportion of incidents notified in the surface metalliferous sector. Other high potential incidents were predominant in coal operations. 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 2013–14 the proportion of mines notifying safety incidents has remained steady. On average, 6% of mines notified the Regulator of an incident each year during the 10-year reporting period — representing 69% in the coal sector, 26% in the metalliferous sector and 3% in the extractives sector.

### **Explanatory notes**

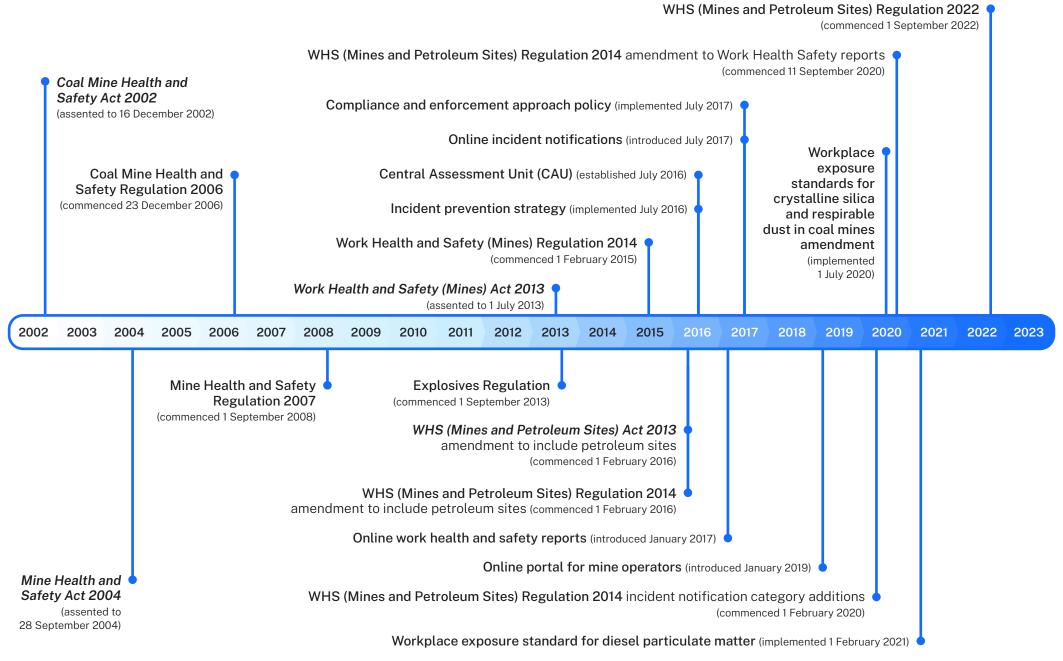
#### Health and safety performance data from the NSW mining sector

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 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. Operators of non-coal mines with total worker hours of less than 10,000 hours per year, exploration sites, petroleum sites, underground small gemstone mines, opal mines and tourist mines are not required to submit work health and safety reports to 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 2002, 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. Regulatory changes in NSW mining 2002–23



Mine safety performance report 2022–23

### 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 5-year average rate. This smoothing technique shows the value for the past 5 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 <a href="Appendix 3">Appendix 3</a> for detailed sector level data and <a href="Appendix 4">Appendix 4</a> for data for the other sectors including petroleum and geothermal sector, opal sector and exploration sector.

It is worth noting the timeframes for mandatory work health and safety reporting:

- coal mining sector commenced 1 July 2007
- coal exploration sites 1 February 2015 to 30 June 2020
- metalliferous and extractives sectors (including exploration) 1 October 2008 to 30 June 2020
- metalliferous and extractives sectors (greater than 10,000 hours worked and excluding exploration only) commenced 11 September 2020.

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 10 financial years from 2013–14 to 2022–23. The rolling 5-year average rate calculation was based on 15 years of data from 2008–09 to 2022–23. The data in this report was extracted from the Regulator's compliance database on 23 October 2023. All data is subject to continuous improvement due to changes to reporting requirements, 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.

### Industry overview



#### Key performance measures 2022-23

1 fatal injuries	83 serious injuries					
205 lost time injuries	767 total recordable injuries					
2,151 notified incidents	1,749 noticed issued					

In the NSW mining industry in 2022–23:

- There was one work-related fatality (opal sector) in 2022–23. The fatal injury frequency rate (FIFR) for the combined coal, metalliferous and extractives sectors continued to decrease from 2016–17. Overall, being hit by a moving object accounted for almost half of the 17 fatalities that occurred during the 10-year period, followed by vehicle and other incidents. Of these 17 fatal injuries, 18% were head injuries, 18% were trunk or chest injuries, and nearly two-thirds (65%) affected multiple or other locations (Figures 4–9).
- A steady downward trend has been observed in the rolling 5-year average serious injury frequency rate (SIFR) for the combined coal, metalliferous and extractives sectors since 2013–14. The number of serious injuries decreased by 6% in 2022–33 following a 25% decrease in 2021–22. Serious injuries in the metalliferous sector decreased by 52% in 2022–23 and accounted for 17% of overall serious injuries.
- In 2022–23 decreases were seen in serious injuries to multiple or other locations, trunk or chest, foot/toes/ ankle and hand/fingers/wrist. Despite the overall drop, small increases were observed in serious injuries to the head or neck, lower limbs and upper limbs. Notable decreases were also seen in these key breakdown agencies: environmental agencies (in injuries in multiple and other locations, and hand/fingers/wrist), materials and substances (in hand/fingers/wrist injuries) and non-powered handtools, appliances and equipment (in hand/fingers/wrist injuries). Mechanisms of sound and pressure and chemicals and other substances were seen in serious injuries for the first time since 2019 and 2022 respectively. A notable increase was observed in serious injuries to head or neck in operator employees (1 to 6) (Figures 10–17).
- There were 205 lost time injuries reported in the combined coal, metalliferous and extractives sectors, representing the lowest number in the 10-year reporting period. The combined rolling 5-year average lost time injury frequency rate (LTIFR) continues an overall downward trend observed since 2013–14. The LTIFR for the extractives sector in 2022–23 is the highest of the 3 sectors (Figures 18–19).
- There were 767 total recordable injuries in the combined coal, metalliferous and extractives sectors, a small increase from 2021–22. Since 2013–14 a steady downward trend has been observed in the rolling 5-year average total recordable injury frequency rate (TRIFR) for the combined coal, metalliferous and extractives sectors (Figure 20–21).
- Notified incidents increased by 13% compared to 2021–22, countering the downward trend observed since 2020–21. The incident notification frequency rate (INFR) for the combined coal, metalliferous and extractives sectors increased in 2022–23, with a marked 26% increase in the extractives sector. In 2022–23, 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 sector and operation type (Figure 22–24 and Table 3).
- There were 1,749 notices issued to the combined sectors, an increase of 13% from 2021–22. More than 50% of notices issued in 2022–23 were improvement notices. The extractives sector received the highest proportion of notices in 2022–23 in line with each of the previous 10 years (Figure 25–26).

Table 1. NSW coal, metalliferous and extractives comparison of key performance indicators 2021–22 and 2022–23

Key performance indicators	Coal surface		Coal underground		Coal total		Metalliferous surface		Metalliferous underground		Metalliferous total		Extractives surface		Coal, metalliferous and surface extractives total	
	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023
Active mines	65	61	39	40	104	101	47	46	49	49	96	95	2,481	2,430	2,681	2,626
Million hours worked	30.92	33.63	13.08	13.23	44.00	46.86	5.52	5.65	9.26	9.68	14.78	15.33	4.33	4.52	63.11	66.73
Full time equivalent workers	15,461	16,815	6,539	6,617	22,001	23,432	2,761	2,827	4,629	4,840	7,390	7,667	2,165	2,264	31,555	33,363
Fatal injuries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fatal injury 5-year average frequency rate	0.006	0.006	0.000	0.000	0.004	0.004	0.068	0.067	0.000	0.000	0.028	0.027	0.041	0.043	0.012	0.012
Permanent incapacity injuries	1	0	0	0	1	0	0	0	0	1	0	1	0	1	1	2
Lost time injuries	64	53	80	77	144	130	18	12	20	33	38	45	36	30	218	205
Lost time injury 5-year average frequency rate	2.48	2.29	7.89	7.46	4.12	3.82	2.12	2.14	2.94	3.21	2.60	2.78	7.70	7.66	4.06	3.86
Restricted duty injuries	56	64	193	210	249	274	12	21	67	47	79	68	34	32	362	374
Medical treatment injuries	28	30	38	50	66	80	9	32	46	30	55	62	56	44	177	186
Total recordable injuries	149	147	311	337	460	484	39	65	133	111	172	176	126	107	758	767
Total recordable injury 5-year average frequency rate	5.57	5.15	27.69	26.25	12.27	11.39	5.71	6.68	16.36	15.49	11.97	11.90	27.41	26.77	13.36	12.59
Serious injuries	21	21	29	36	50	57	10	4	19	10	29	14	9	12	88	83
Serious injury 5-year average frequency rate	0.68	0.65	2.84	2.97	1.33	1.33	0.75	0.84	2.00	1.97	1.48	1.51	2.14	2.30	1.43	1.44
Incident notifications	571	604	882	1,013	1,453	1,617	60	73	252	289	312	362	125	164	1,890	2,143
Incident notification annual frequency rate	18.47	17.96	67.44	76.54	32.02	34.50	10.87	12.91	27.22	29.86	21.11	23.61	28.87	36.21	29.95	32.12
Mines that notified an incident	65%	70%	59%	65%	63%	68%	19%	22%	33%	43%	26%	33%	3%	3%	6%	7%
Notices issued	151	208	304	294	455	502	71	103	261	225	332	328	664	810	1,451	1,640

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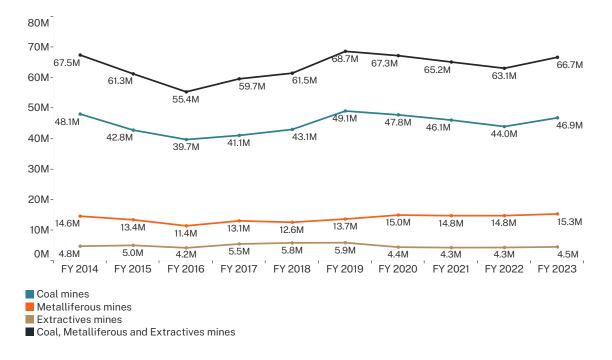
#### Hours worked

In 2022–23, hours worked in the combined coal, metalliferous and extractives sectors increased slightly compared to 2021–22 from 63.1 to 66.7 million hours. This is the first recorded increase in 3 years. In 2022–23 70% of hours worked were in the coal sector, 23% in the metalliferous sector and 7% in the extractives sector.

Over the 10-year reporting period the total number of hours worked has decreased by 1% from 67.5 million hours in 2013–14 to 66.7 million hours in 2022–23. 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 <a href="Explanatory notes">Explanatory notes</a> for more information about work health and safety reporting.

Figure 2. Coal, metalliferous and extractives hours worked by sector 2013–14 to 2022–23



#### Fatal injuries

#### Fatal injuries 2022-23

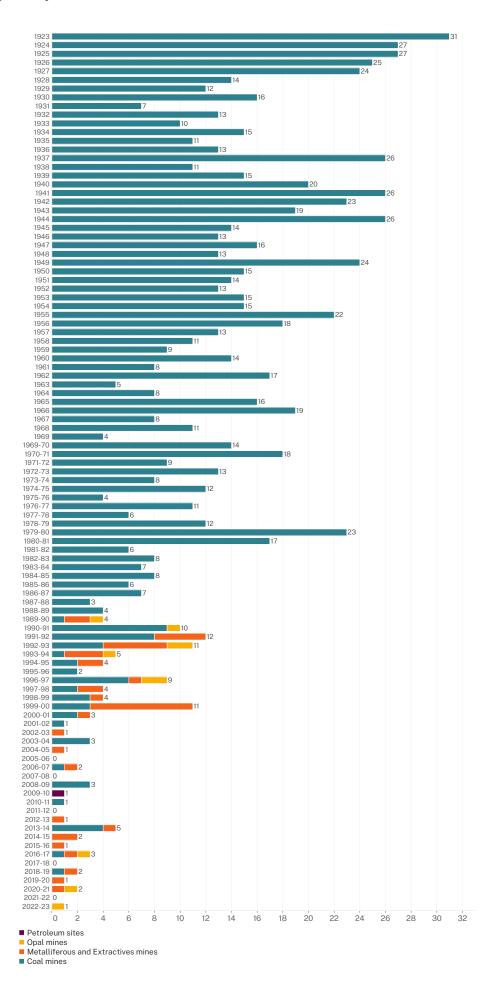
In 2022–23 there was one work-related fatality at a mine in NSW. The incident occurred within the opal mines sector.

#### Fatal injuries in NSW mining, last 100 years

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

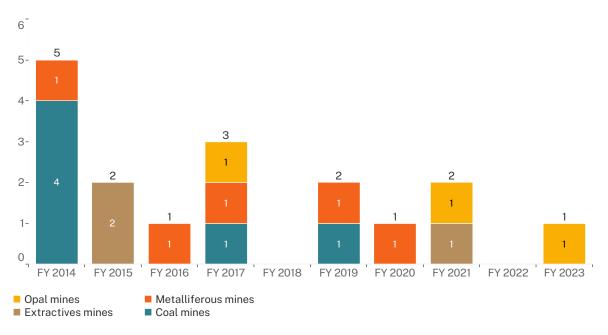


Figure 3. Fatal injuries by sector 1923 to FY 2022-23



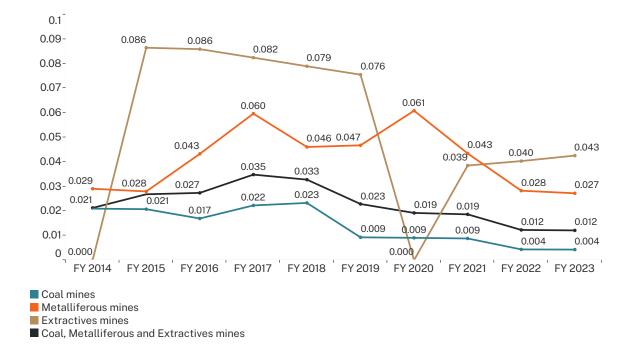
#### Fatal injuries by sector

Figure 4. Fatal injuries by sector 2013-14 to 2022-23



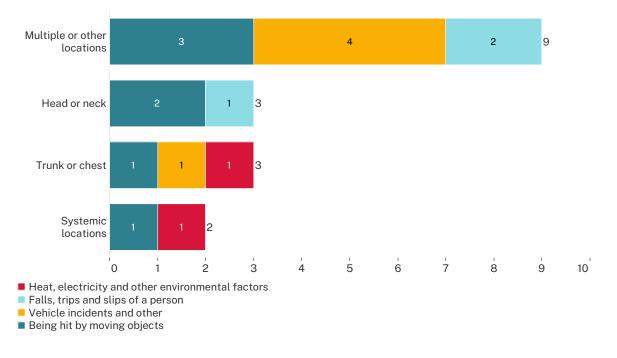
#### Fatal injury frequency rates

Figure 5. Coal, metalliferous and extractives rolling 5-year average FIFR 2013–14 to 2022–23



#### Fatal injury hazard mechanism

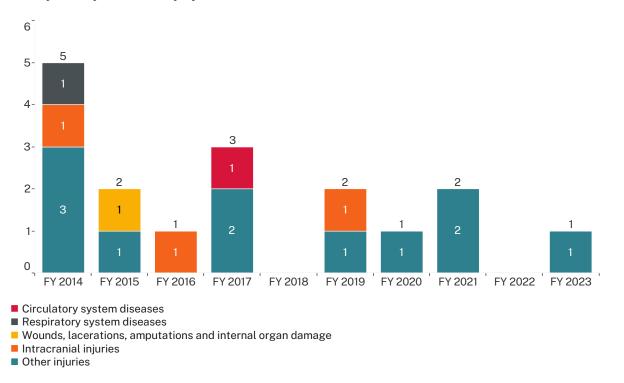
Figure 6. Fatal injuries by hazard mechanism 2013-14 to 2022-23



#### Fatal injury nature of injury

Since 2013–14, the nature of fatal injuries was most often classified as 'other injuries' (11) and 'intercranial 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 2013–14 to 2022–23



#### Fatal injury bodily location

Figure 8. Fatal injuries by bodily location 2013–14 to 2022–23

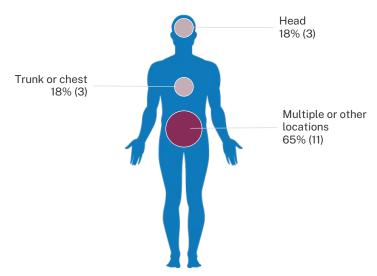
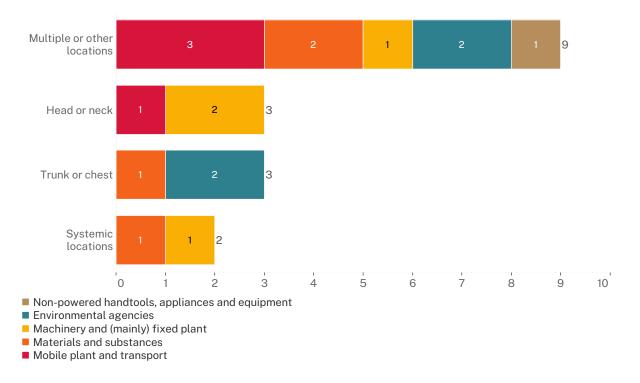


Figure 9. Bodily location of fatal injuries by breakdown agency 2013–14 to 2022–23



#### 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.

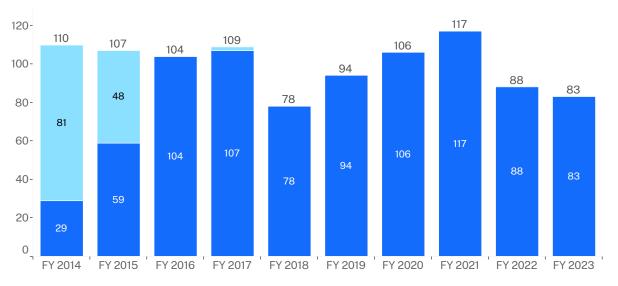
The Work Health and Safety (Mines and Petroleum Sites) Regulation 2022 defines a serious injury or illness was expanded to include additional injury and illness types, as well as any injury or illness, irrespective of its nature, that results in immediate treatment as an inpatient in a hospital.

To provide equivalence in serious injuries across the serious injury definitions in the previous legislation and current legislation (Work Health and Safety (Mines and Petroleum Sites) Regulation 2022), 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.

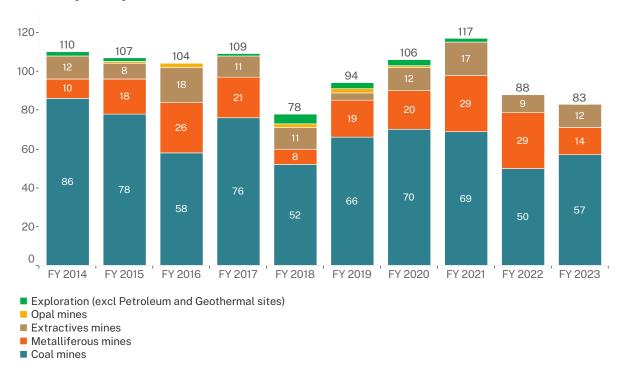
Note: It is recognised that while the injuries classified under the previous legislation were recorded with hospital inpatient admission clauses, some of these may have only resulted in hospital treatment (e.g. for sutures), rather than inpatient admission.

Figure 10. Serious injuries with re-classified historical serious injuries 2013–14 to 2022–23



- Equivalent to Serious injury/illness
- Serious injury/illness

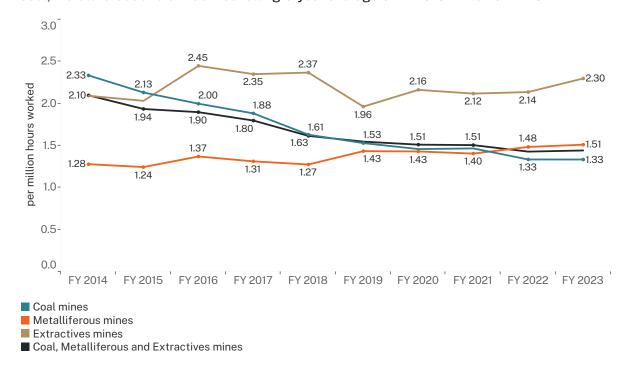
Figure 11. Serious injuries by sector 2013-14 to 2022-23



#### Serious injury frequency rates

Since 2013–14, serious injury frequency rates in the metalliferous sector have trended up, increasing by 18% overall. Over the same period, coal and extractives sectors have trended down, 43% and 10% respectively.

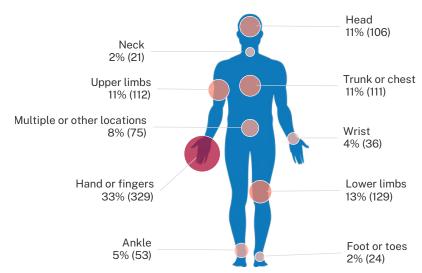
Figure 12. Coal, metalliferous and extractives rolling 5-year average SIFR 2013–14 to 2022–23



#### Serious injuries by bodily location

Bodily location has been used to examine change in the severity and nature of serious injuries from 2013–14, by mechanism, breakdown agency and employment type.

Figure 13. Bodily location of serious injuries 2013–14 to 2022–23



#### 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.

#### Nature of injury

Figure 14. Bodily location of serious injuries by nature of injury 2020-21 to 2022-23

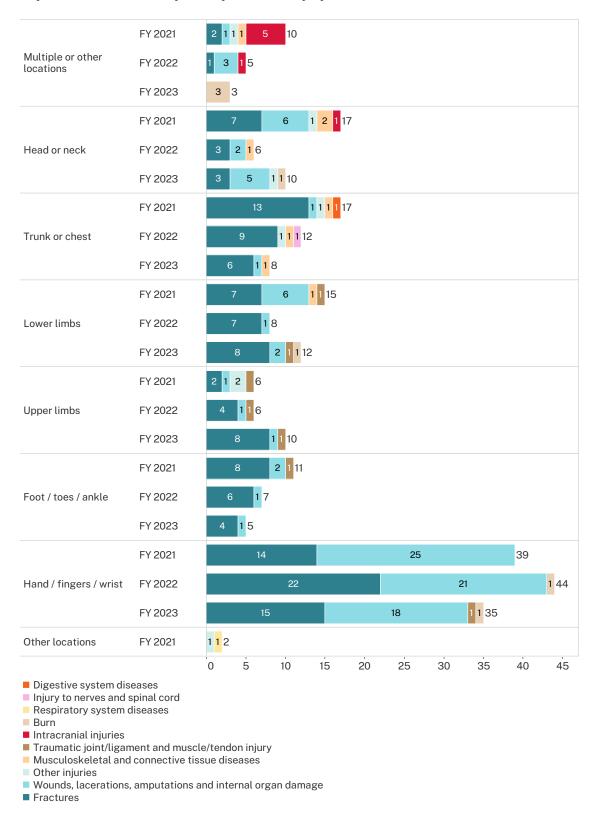


Figure 15. Bodily location of serious injuries by mechanism 2020–21 to 2022–23

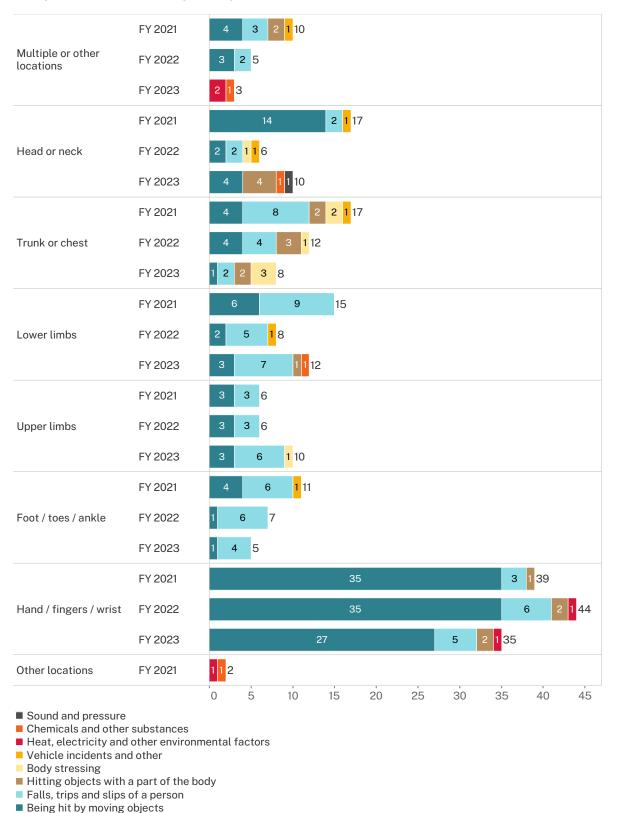


Figure 16. Bodily location of serious injuries by breakdown agency 2020–21 to 2022–23

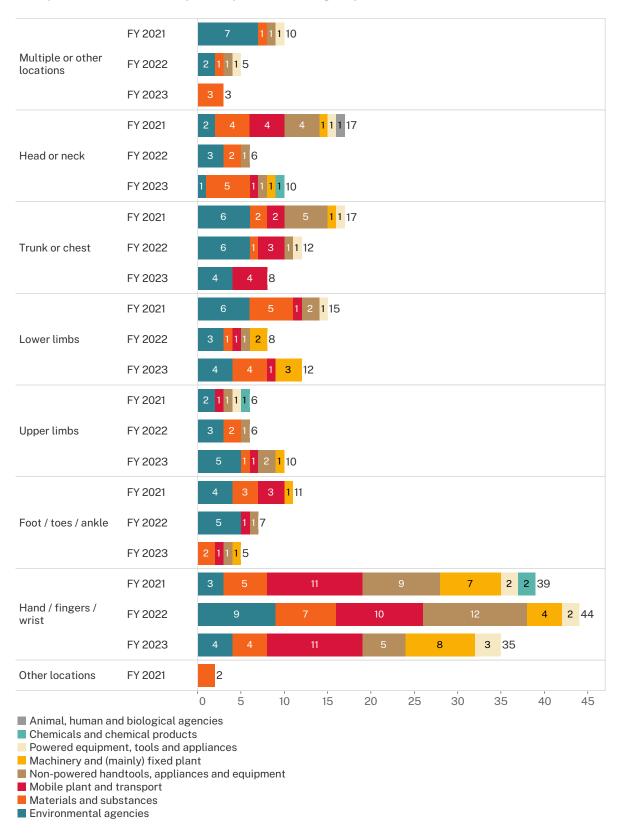
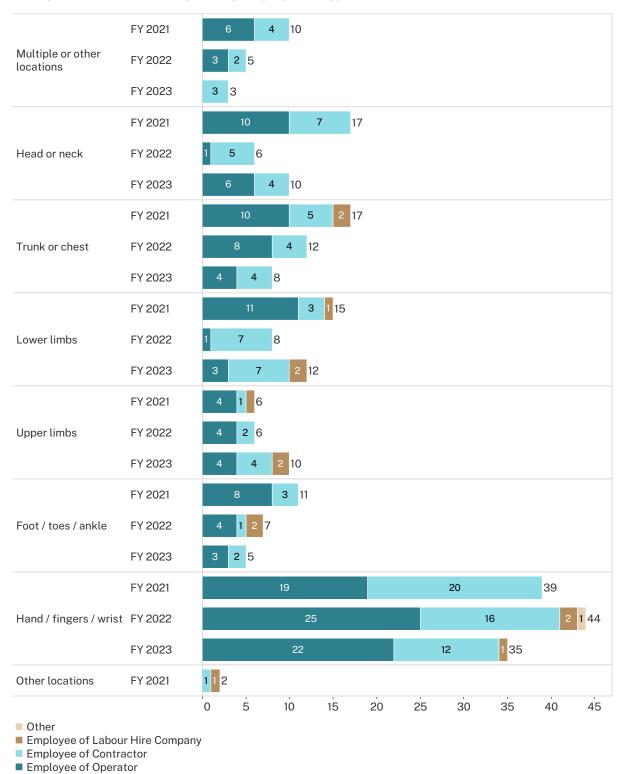


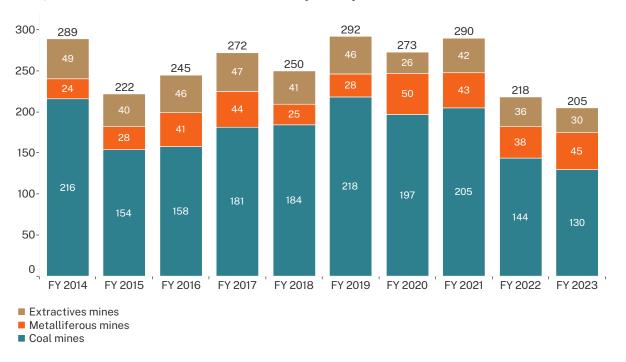
Figure 17. Bodily location of serious injuries by employment type 2020-21 to 2022-23



#### Lost time injuries

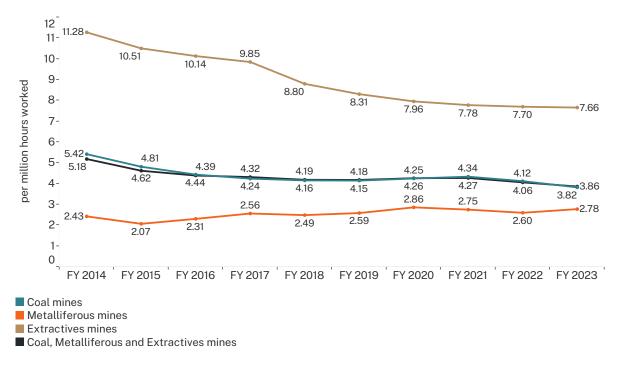
#### Lost time injuries by sector

Figure 18. Coal, metalliferous and extractives lost time injuries by sector 2013–14 to 2022–23



#### Lost time injury frequency rates

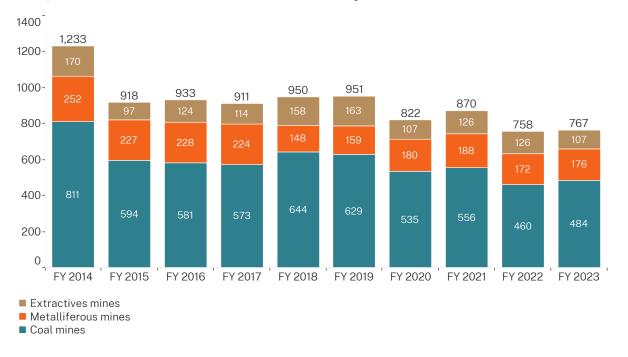
Figure 19. Coal, metalliferous and extractives rolling 5-year average LTIFR 2013–14 to 2022–23



#### Total recordable injuries

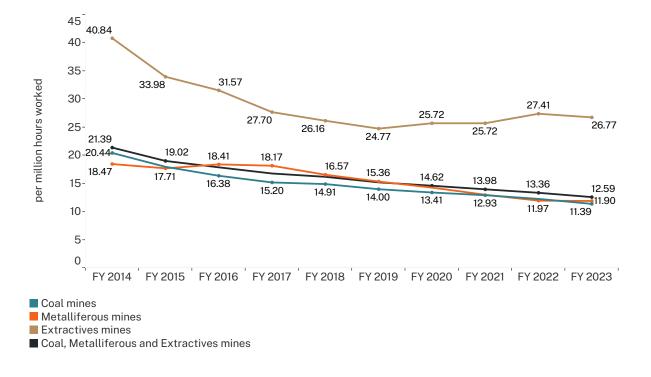
#### Total recordable injuries by sector

Figure 20. Coal, metalliferous and extractives total recordable injuries 2013–14 to 2022–23



#### Total recordable injury frequency rates

Figure 21. Coal, metalliferous and extractives rolling 5-year average TRIFR 2013–14 to 2022–23

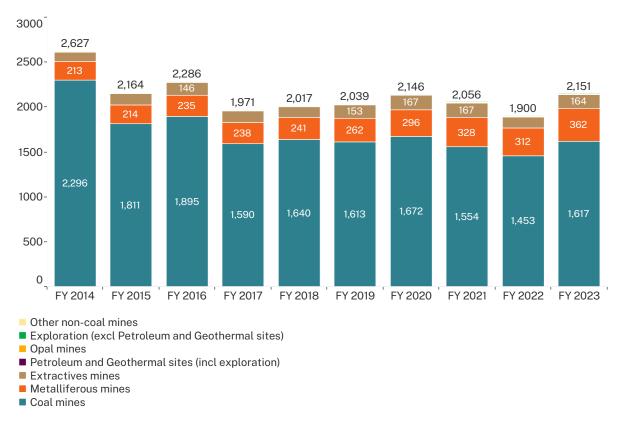


#### Notified incidents

#### Notified incidents by sector

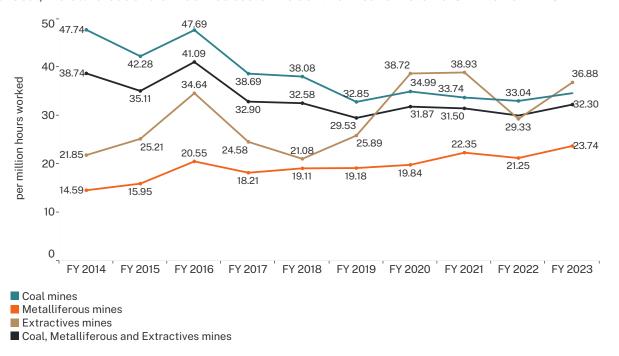
Note: Any incident notification that included multiple gas exceedances has been included as individual incident notifications in this report. See Appendix 3 for details of notified incidents by sector.

Figure 22. Notified incidents by sector 2013-14 to 2022-23



#### Incident notification rates

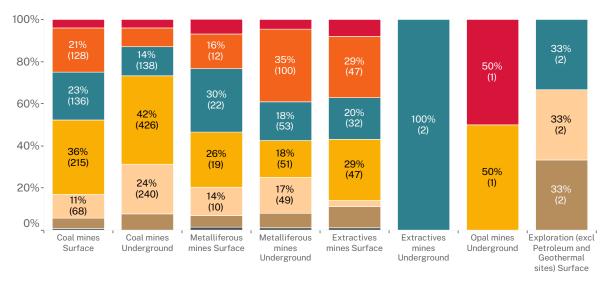
Figure 23. Coal, metalliferous and extractives sector incident notification rate 2013–14 to 2022–23



#### Incident notification reporting trends

#### Incident notification profile

Figure 24. Incident notification profile by sector and operation type 2022–23



- Workplace death or Serious injury/illness
- Dangerous incident
- Potentially dangerous incident
- Other High potential incident
- Lost time/Restricted duty injury/illness
- Medical treatment injury/illness
- Other incident notification

#### Proportion of mines notifying incidents

Since 2013–14 the proportion of mines notifying incidents has remained steady. On average, 6% of mines notified the Regulator of an incident every year during the 10-year reporting period.

The table provided below excludes the exploration sector so the numbers will be different to those previously reported. See Explanatory notes.

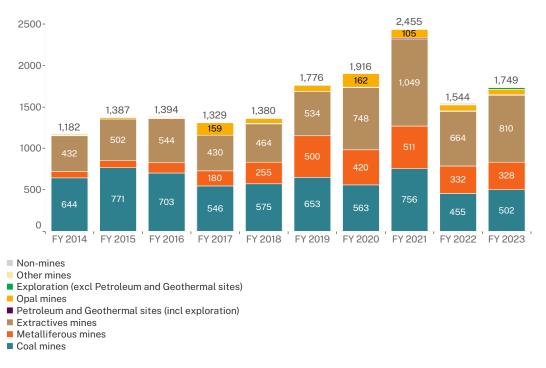
Table 2. Proportion of coal, metalliferous and extractives mines that notified an incident 2013-14 to 2022-23

Measure	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Number of notified incidents	2,613	2,152	2,276	1,963	2,004	2,028	2,135	2,049	1,890	2,143
Number of active mines	2,583	2,644	2,776	2,744	2,771	2,740	2,761	2,700	2,681	2,681
Number of mines that notified an incident	165	165	173	163	174	172	178	186	172	175
% of mines that notified an incident	6%	6%	6%	6%	6%	6%	6%	7%	6%	7%

#### Notices issued

#### Notices issued by sector

Figure 25. Notices issued by sector 2013-14 to 2022-23

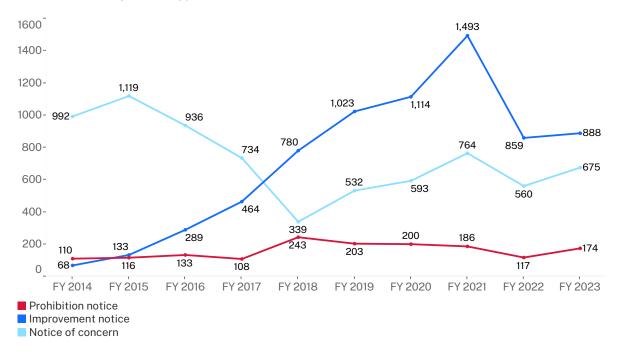


#### Notices issued by notice type

Since 2017–18, changes to the type of notices issued reflect the Regulator's renewed focus on incident prevention as outlined in its <u>Compliance and Enforcement Approach (2017)</u>. The approach sought to clearly identify matters that necessitate the issue of an improvement notice rather than a written notice of concern. Notable increases were observed in prohibition notices (49%) and notices of concern (21%) issued in 2022–23.

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

Figure 26. Notices issued by notice type 2013-14 to 2022-23



#### 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\*

<sup>\*</sup> Excluding exploration.

Refer to <u>Appendix 2</u> for definitions.

### Coal sector



# Key performance measures 2021–22 O fatal injuries 130 lost time injuries 484 total recordable injuries 1,617 notified incidents 502 noticed issued

In the coal sector in 2022-23:

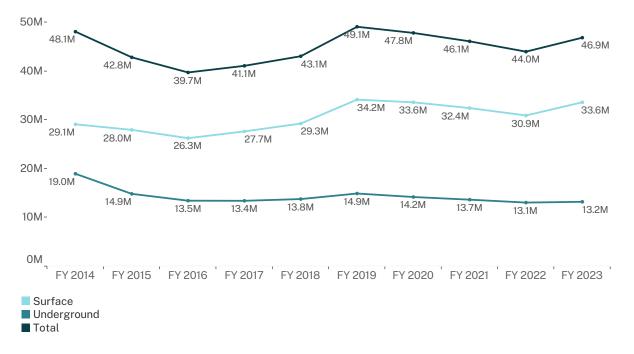
- There were no work-related fatalities. The last work-related fatality in the coal sector was in 2018–19. During the past 10 years, there have been 6 work-related mining fatalities in the NSW coal sector, 4 in surface operations and 2 in underground operations (Figure 28).
- Downward trends have been continued since 2013–14 in the 5-year average frequency rates for serious injuries, lost time injuries and total recordable injuries across the coal sector (Figures 30, 32 and 34), despite a 7% increase in hours worked across both operation types in 2022–23 (Figure 27).
- Serious injuries in the coal sector increased by 14% in 2022–23. Of the 57 serious injuries notified, the majority (63%) occurred in underground coal mines. Serious injuries reported in underground coal mines have increased by 24% from 2021–22 but the overall serious injury frequency rate (SIFR) for the coal sector has shown a small but steady downward trend since 2013–14 (Figures 29–30).
- There were 130 lost time injuries reported in 2022–23, a 10% decrease from the previous year, with 59% occurring in underground operations. The lost time injury frequency rate (LTIFR) has steadily declined over the reporting decade, marking an 29% decrease overall (Figures 31–32).
- There were 484 total recordable injuries, up 5% from 2021–22. In the 10 years since 2012–13, total recordable injuries in the coal sector have decreased by 40%. A downward trend in the rolling 5-year average total recordable injury frequency rate (TRIFR) was observed across the coal sector, with an overall decrease of 44% since 2013–14 (Figures 33–34).
- There were 1,617 incidents notified to the Regulator by the coal sector, an 11% increase from the previous year. In the 10 years since 2013–14, incidents notified by the coal sector have decreased by 30%. Notified incidents in underground operations have decreased by 39% since 2013–14, with underground operations accounting for 63% of incidents notified in 2022–23. The incident notification frequency rate (INFR) for the coal sector increased slightly compared to 2021–22, however an overall downward trend has been observed since 2013–14. (Figures 35–36).
- Other high potential incidents were the predominant incidents notified in surface and underground coal mines. Increases in dangerous incidents (21%) and lost time/restricted duty injuries (45%) were also observed in surface coal mines, whereas a decrease was seen for medical treatment injuries/illnesses. The proportion of coal mines that notified an incident has decreased from 92% in 2013–14 to 68% in 2022–23. Multiple factors including legislative framework, inherent hazards and characteristics of each operation type contribute to the differences observed. While each operation type presents a distinct notification profile, comparable results were observed across the 5-year period (Figures 35–37 and Table 3).
- There were 502 notices issued in the coal sector, an increase of 10% from 2021–22, with improvement notices accounting for 44% of the total. Nearly 60% of notices (notices of concern, improvement notices, prohibition notices and non-disturbance notices) were issued to underground coal mines. This aligns with most previous years of the 10-year reporting period, except for 2019–20 where most notices were issued to surface coal mines (Figures 38–39).

See Appendix 3 for sector summary data.

#### Hours worked

In 2022–23 the total hours worked in the coal sector increased from the previous year, reversing the downward trend observed since 2018–19. Most hours worked (72%) were in surface coal operations.

Figure 27. Coal sector hours worked by operation type 2013–14 to 2022–23

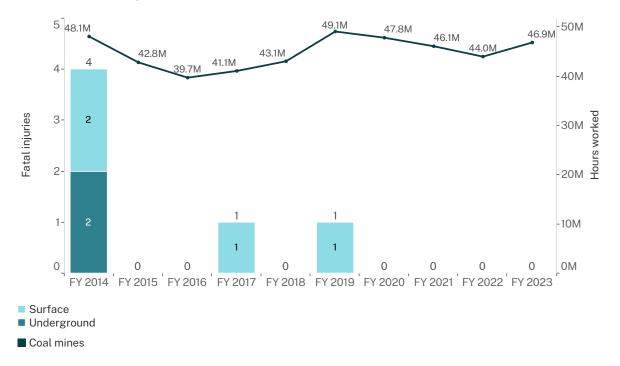


#### Fatal injuries

#### Fatal injuries and hours worked

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

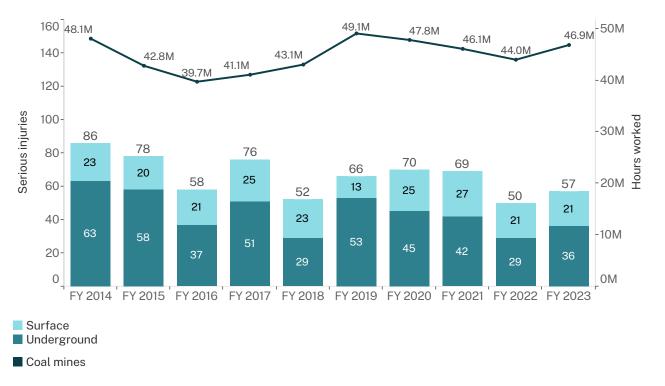
Figure 28. Coal sector fatal injuries and hours worked 2013–14 to 2022–23



#### Serious injuries

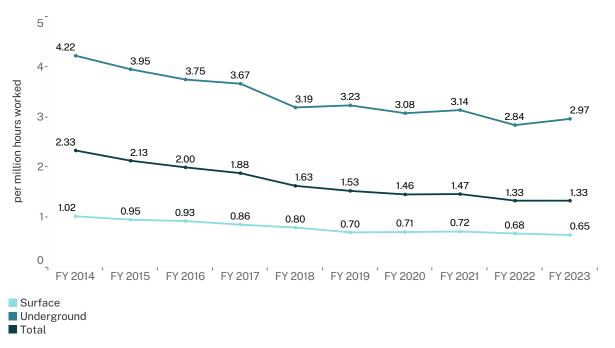
#### Serious injuries and hours worked

Figure 29. Coal sector serious injuries and hours worked 2013–14 to 2022–23



#### Serious injury frequency rates

Figure 30. Coal sector rolling 5-year average SIFR 2013–14 to 2022–23



#### Lost time injuries

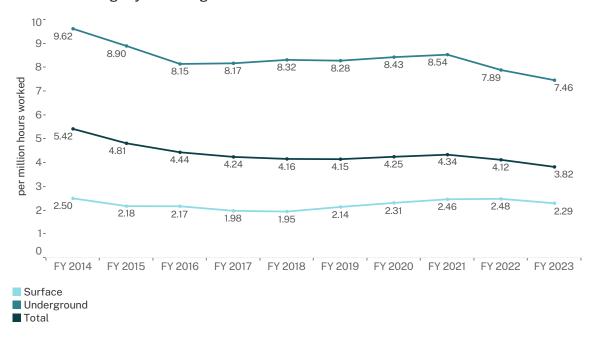
#### Lost time injuries and hours worked

Figure 31. Coal sector lost time injuries and hours worked 2013–14 to 2022–23



#### Lost time injury frequency rates

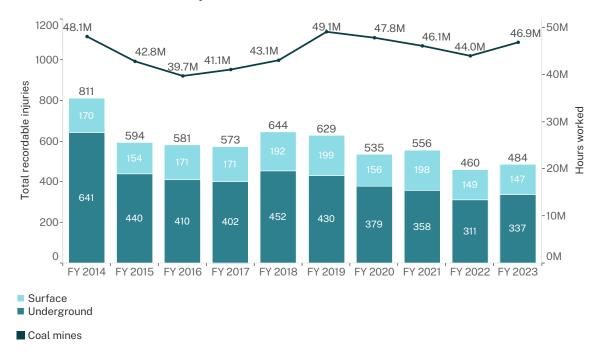
Figure 32. Coal sector rolling 5-year average LTIFR 2013–14 to 2022–23



#### Total recordable injuries

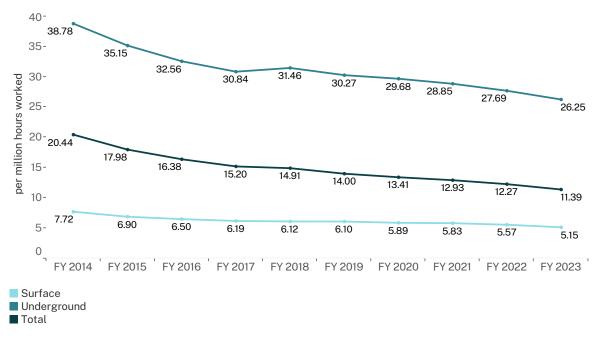
#### Total recordable injuries and hours worked

Figure 33. Coal sector total recordable injuries and hours worked 2013–14 to 2022–23



#### Total recordable injuries frequency rates

Figure 34. Coal sector rolling 5-year average TRIFR 2013–14 to 2022–23

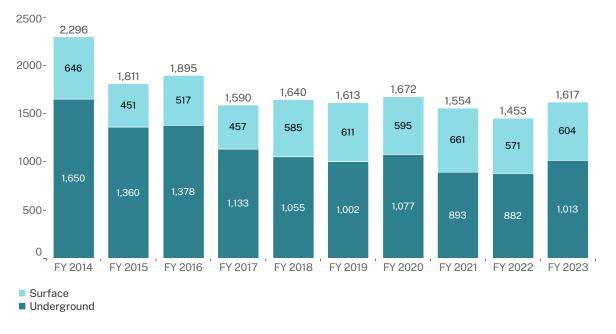


#### Notified incidents

#### Notified incidents by operation type

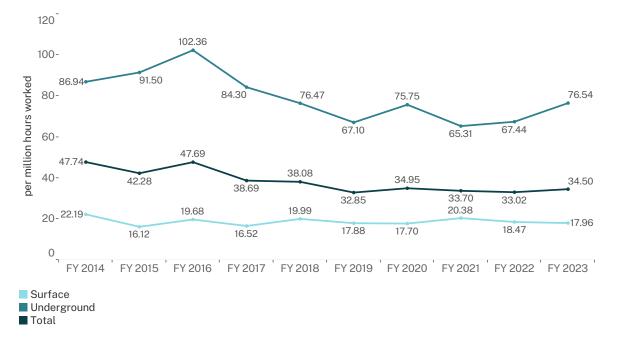
Note: Any incident notification that included multiple gas exceedances has been included as individual incident notifications in this report.

Figure 35. Coal sector notified incidents by operation type 2013–14 to 2022–23



#### Incident notification rates

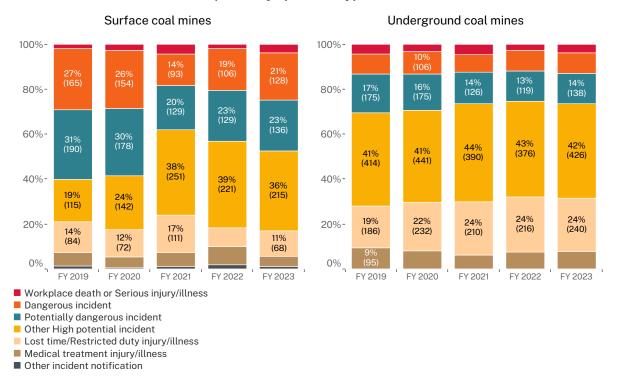
Figure 36. Coal sector incident notification rate 2013–14 to 2022–23



#### Incident notification reporting trends

#### Incident notification profile

Figure 37. Coal sector incident notification profile by operation type 2018–19 to 2022–23



#### Proportion of coal mines notifying incidents

The proportion of coal mines notifying incidents has decreased by 26% over the 10-year reporting period from 92% in 2013–14 to 68% in 2022–23. On average, 69% of coal mines notified incidents during the 10-year reporting period.

The table provided below excludes the exploration sector so the numbers will be different to those previously reported. See Explanatory notes.

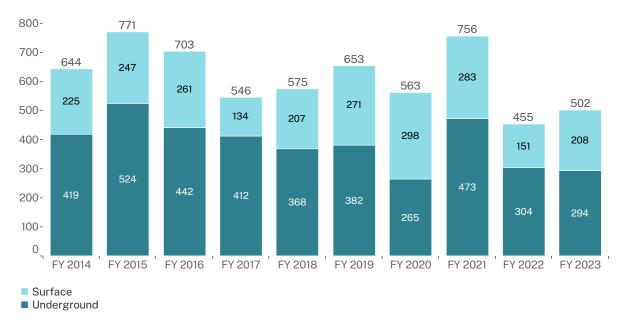
Table 3. Coal sector proportion of mines that notified an incident 2013-14 to 2022-23

Measure	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Number of notified incidents	2,296	1,811	1,895	1,590	1,640	1,613	1,672	1,554	1,453	1,617
Number of active mines	83	83	95	111	111	123	122	118	104	101
Number of mines that notified an incident	76	72	69	71	75	70	75	69	65	69
% of mines that notified an incident	92%	87%	73%	64%	68%	57%	61%	58%	63%	68%

#### Notices issued

#### Notices issued by operation type

Figure 38. Coal sector notices issued by operation type 2013–14 to 2022–23

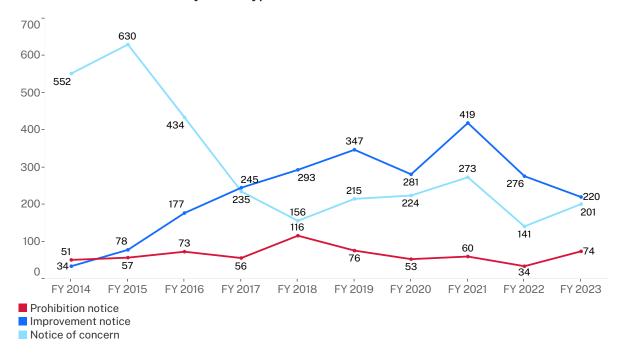


#### Notices issued by notice type

Since 2017–18, changes to the type of notices issued reflect the Regulator's renewed focus on incident prevention as outlined in its <u>Compliance and Enforcement Approach (2017)</u>. The approach sought to clearly identify matters that necessitate the issue of an improvement notice rather than a written notice of concern. Notable increases were observed in prohibition notices (118%) and notices of concern (43%) issued in 2022–23.

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 2013-14 to 2022-23



## Metalliferous sector



#### Key performance measures 2022-23

0 fatal injuries	14 serious injuries		
45 lost time injuries	176 total recordable injuries		
362 notified incidents	328 notices issued		

In the metalliferous sector in 2022-23:

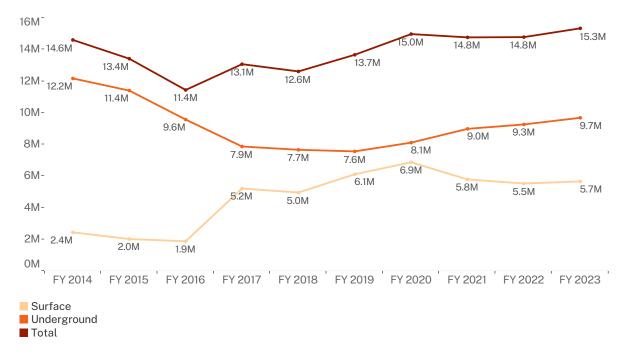
- There were no work-related fatalities. The last work-related fatality in the metalliferous sector was in 2019–20. During the past 10 years, there have been 5 work-related mining fatalities in the NSW metalliferous sector, 3 in underground operations and 2 in surface operations (Figure 41).
- The total number of serious injuries notified decreased by over 50% from 2021–22. Of the 14 serious injuries, the majority occurred in underground metalliferous mines (Figures 42–43).
- The overall serious injury frequency rate increased in 2022–23, representing a slight decrease in underground mines and a 10% increase in surface mines. An increase was observed in the lost time injury frequency rate, particularly in underground mines, while the overall total recordable injury rate has trended down across the metalliferous sector since 2016–17 (Figures 42, 43, 45 and 47).
- There were 45 lost time injuries reported, an 18% increase from 2021–22, with 73% occurring in underground operations. The lost time injury frequency rate (LTIFR) increased in both surface and underground operations in 2022–23. The underground operations LTIFR increased by 9% following a 13% decrease the previous year. Although the surface operations LTIFR increased by only 1%, this was the highest figure recorded over the last decade. (Figures 44–45).
- Total recordable injuries have remained steady from 2019–20, with the past 6 years total recordable injuries being the lowest in the 10-year reporting period. A steady downward trend has been observed in the rolling 5-year average total recordable injury frequency rate (TRIFR) since 2015–16 (Figures 46–47).
- Incidents notified increased by 16% in 2022–23, representing the highest figure recorded since 2013–14 and continuing a steady upward trend. Since 2013–14 an upward trend has also been observed in the incident notification frequency rate (INFR) for both surface and underground operations, along with increases in reported hours worked. (Figures 40, 48–49).
- Between 2018–19 and 2022–23, the greatest proportion of incident notifications in both surface and underground operations related to dangerous incidents, except for surface operations in 2022–23 where the greatest proportion was potentially dangerous incidents. Surface metalliferous mines have seen a reduction in the number of dangerous incidents (from 22 in 2018–19 to 12 in 2022–23) and an increase in potentially dangerous incidents (10 to 22) and other high potential incidents (11 to 19). Multiple factors including legislative framework, inherent hazards and characteristics of each operation type contribute to the differences observed. While each operation type presents a distinct notification profile, comparable results were observed across the 5-year period (Figures 48–50 and Table 4).
- There were 328 notices issued in the metalliferous sector, a 2% decrease from 2021–22 with improvement notices accounting for 54% of all notices issued in the year. More than two-thirds of all notices were issued to underground operations in line with the 10-year reporting period (Figures 51–52).

#### Hours worked

In 2022–23 the total hours worked for the metalliferous sector showed a slight rise from 2021–22, with 4% increases seen in both underground and surface operations. Most hours worked were in underground metalliferous operations.

Note: There was a change in work health and safety reporting requirements from June 2020, 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 40. Metalliferous sector hours worked by operation type 2013–14 to 2022–23

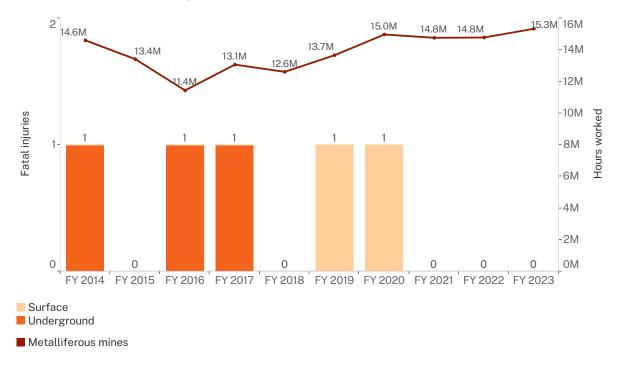


#### Fatal injuries

#### 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 2013–14 to 2022–23



#### Serious injuries

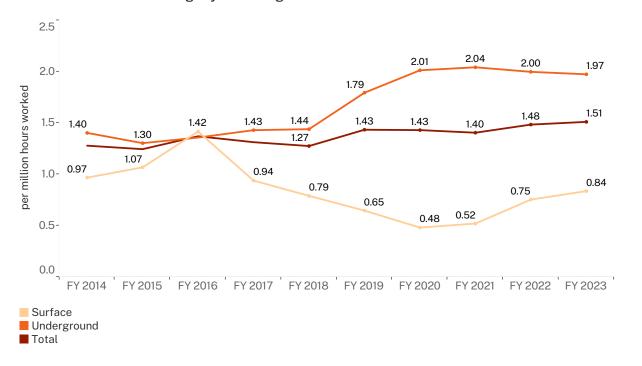
#### Serious injuries and hours worked

Figure 42. Metalliferous sector serious injuries and hours worked 2013–14 to 2022–23



#### Serious injury frequency rates

Figure 43. Metalliferous sector rolling 5-year average SIFR 2013–14 to 2022–23



#### Lost time injuries

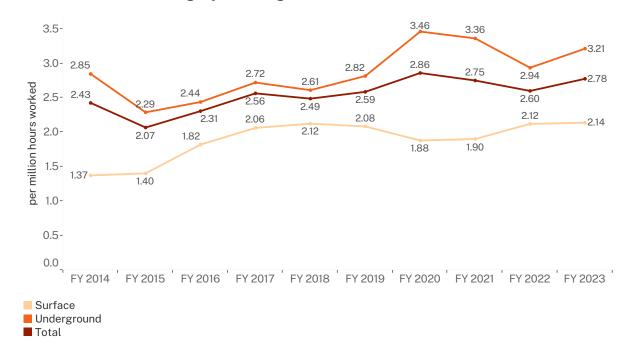
#### Lost time injuries and hours worked

Figure 44. Metalliferous sector lost time injuries and hours worked 2013–14 to 2022–23



#### Lost time injury frequency rates

Figure 45. Metalliferous sector rolling 5-year average LTIFR 2013–14 to 2022–23



#### Total recordable injuries

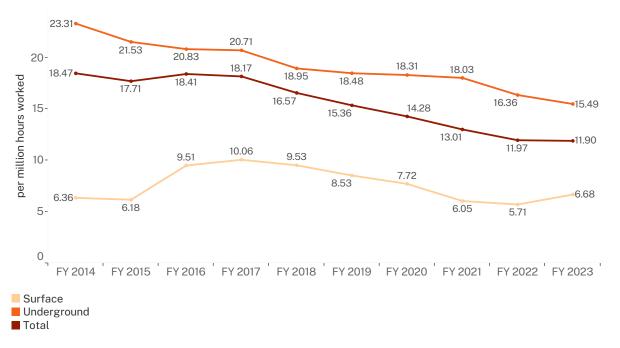
#### Total recordable injuries and hours worked

Figure 46. Metalliferous sector total recordable injuries and hours worked 2013–14 to 2022–23



#### Total recordable injuries frequency rates

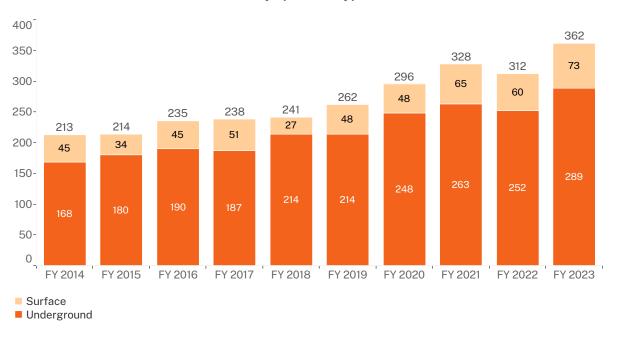
Figure 47. Metalliferous sector 5-year average TRIFR 2013–14 to 2022–23



#### Notified incidents

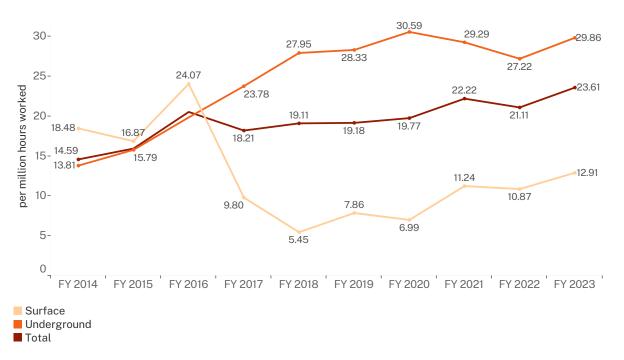
#### Notified incidents by operation type

Figure 48. Metalliferous sector notified incidents by operation type 2013–14 to 2022–23



#### Incident notification rates

Figure 49. Metalliferous sector incident notification rate 2013–14 to 2022–23



#### 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.

Surface metalliferous mines Underground metalliferous mines 100%-100%-15% (9) 33% (82) 80%-80%-34% (89) 40% (98) 30% (22) 60%-60%-13% (34) 14% (9) 18% (53) 16% (40) 21% (45) 40%-40%-26% (19) (38) 10% 12% (31) 20% 20%-(49) (10) 0% 0% FY 2022 FY 2021 FY 2019 FY 2020 FY 2021 FY 2019 FY 2020 FY 2022 ■ Workplace death or Serious injury/illness Dangerous incident Potentially dangerous incident Other High potential incident Lost time/Restricted duty injury/illness Medical treatment injury/illness Other incident notification

Figure 50. Metalliferous sector incident notification profile by operation type 2018–19 to 2022–23

#### Proportion of metalliferous mines notifying incidents

While the number of metalliferous mines has increased by 17% in the 10 years since 2013–14 (from 81 mines to 95 in 2022–23), the proportion of mines notifying incidents has remained relatively steady. On average, 26% of active metalliferous mines notified the Regulator of an incident every year within the 10-year reporting period.

The table provided below excludes the exploration sector so the numbers will be different to those previously reported. See <u>Explanatory notes</u>.

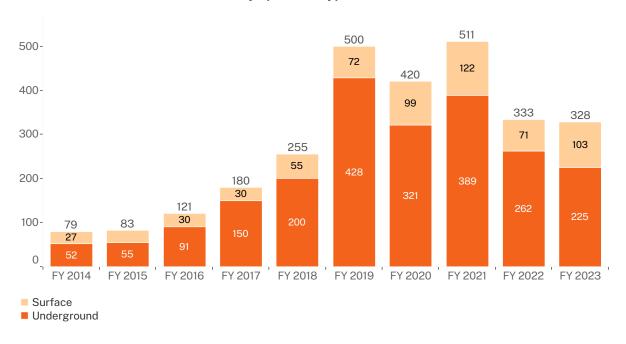
Table 4. Metalliferous sector proportion of mines that notified an incident 2013–14 to 2022–23

Measure	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Number of notified incidents	213	214	235	238	241	262	296	328	312	362
Number of active mines	81	85	98	109	107	116	105	93	96	95
Number of mines that notified an incident	26	25	26	23	26	23	27	26	25	30
% of mines that notified an incident	32%	29%	27%	21%	24%	20%	26%	28%	26%	32%

#### Notices issued

#### Notices issued by operation type

Figure 51. Metalliferous sector notices issued by operation type 2013–14 to 2022–23

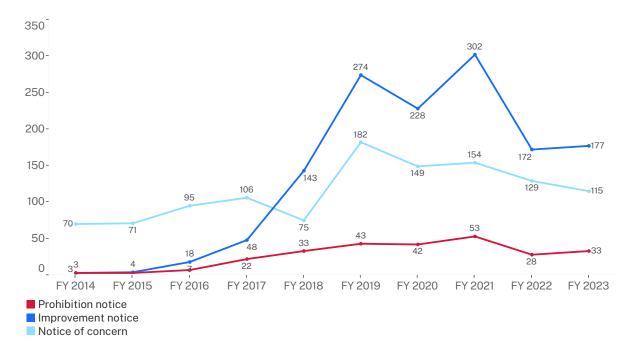


#### Notices issued by notice type

Since 2017–18, changes to the type of notices issued reflect the Regulator's renewed focus on incident prevention as outlined in its <u>Compliance and Enforcement Approach (2017)</u>. 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 52. Metalliferous sector notices issued by notice type 2013-14 to 2022-23



### Extractives sector



# Key performance measures 2022–23 O fatal injuries 30 lost time injuries 107 total recordable injuries 164 notified incidents 810 noticed issued

In the extractives sector in 2022-23:

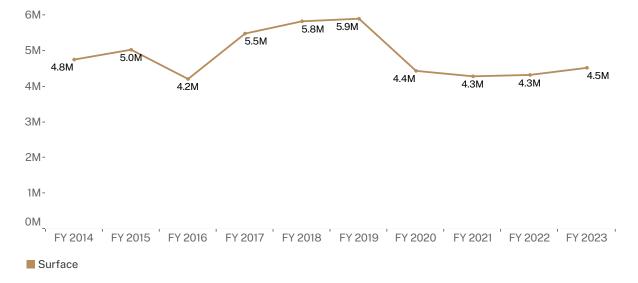
- There were no work-related fatalities. The last work-related fatality in the extractives sector was in 2020–21 (Figure 54).
- There were 12 serious injuries notified, an increase of 33% from 2021–22. The serious injury frequency rate (SIFR) for the extractives sector increased by 7% from the previous year (Figures 55–56).
- There were 30 lost time injuries reported, a decrease of 17% from 2021–22. The rolling 5-year average lost time injury frequency rate (LTIFR) decreased slightly, continuing an overall downward trend since 2013–14 (Figures 57–58).
- There were 107 total recordable injuries marking a 15% decrease from 2021–22. The rolling 5-year average total recordable injury frequency rate (TRIFR) experienced a slight decrease compared to the previous year, and a downward trend has been observed overall since 2013–14 (Figures 59–60).
- There were 164 incidents notified to the Regulator, a 31% increase compared to 2021–22, but comparable to the numbers seen in 2019–20 and 2020–21. The incident notification frequency rate (INFR) also increased by 27% after a notable decrease in 2021–22. (Figures 61–62).
- Between 2018–19 and 2022–23, the greatest proportion of incident notifications in the extractives sector related to dangerous incidents, potentially dangerous incidents and other high potential incidents (Figure 63 and Table 5).
- There were 810 notices issued, an overall increase of 22% from 2021–22, and the second highest figure over the last decade. Improvement notices (54%) and notices of concern (42%) accounted for most notices issued. (Figures 63–64).

#### Hours worked

In 2022–23 the total hours worked in the surface extractives sector increased to 4.5m hours from 4.3m in the previous 2 years.

Note: There was a change in work health and safety reporting requirements from June 2020, 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 53. Extractives sector hours worked by operation type 2013–14 to 2022–23



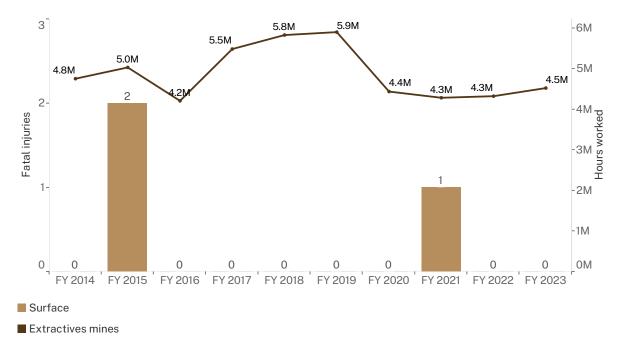
#### Fatal injuries

#### Fatal injuries and hours worked

In 2022–23 there were no mining fatalities in the extractives sector.

During the past 10 years, there have been 3 work-related mining fatalities in the extractives sector. <u>Figure 3</u> presents fatal injuries in NSW metalliferous and extractives mines since 1989.

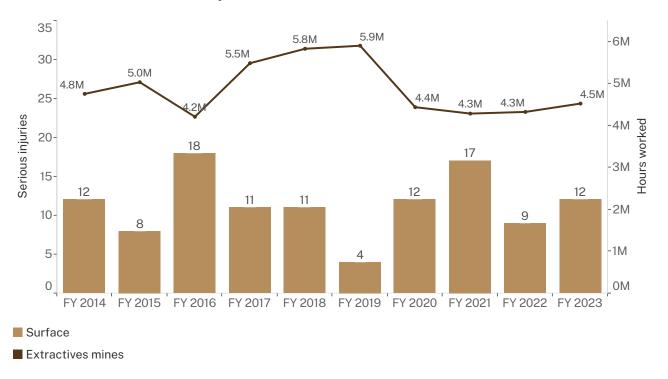
Figure 54. Extractives sector fatal injuries and hours worked 2013–14 to 2022–23



#### Serious injuries

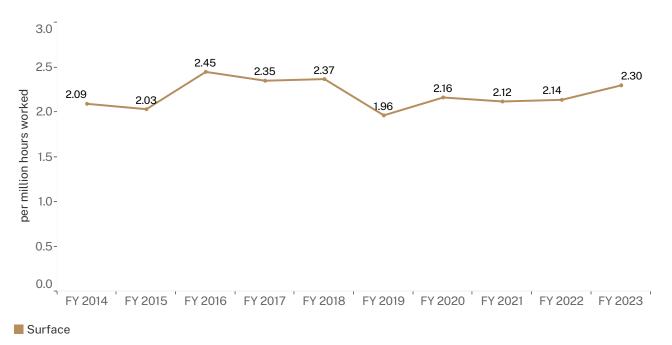
#### Serious injuries and hours worked

Figure 55. Extractives sector serious injuries and hours worked 2013–14 to 2022–23



#### Serious injury frequency rates

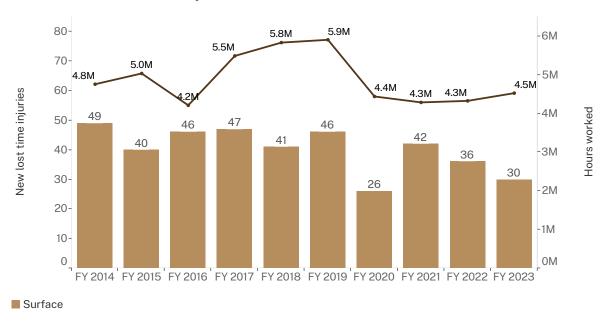
Figure 56. Extractives sector rolling 5-year average SIFR 2013–14 to 2022–23



#### Lost time injuries

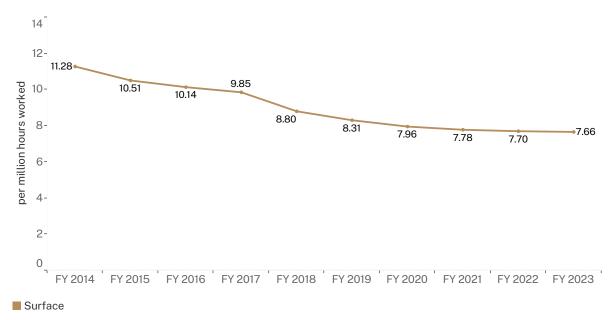
#### Lost time injuries and hours worked

Figure 57. Extractives sector lost time injuries and hours worked 2013–14 to 2022–23



#### Lost time injury frequency rates

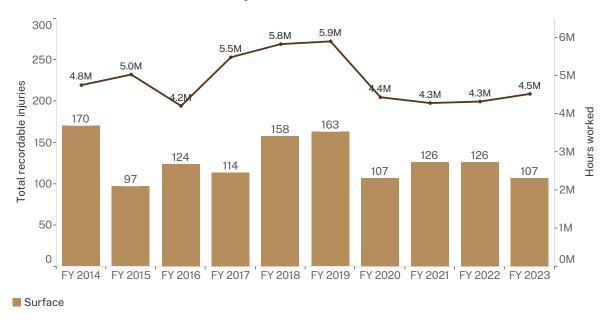
Figure 58. Extractives sector rolling 5-year average LTIFR 2013–14 to 2022–23



#### Total recordable injuries

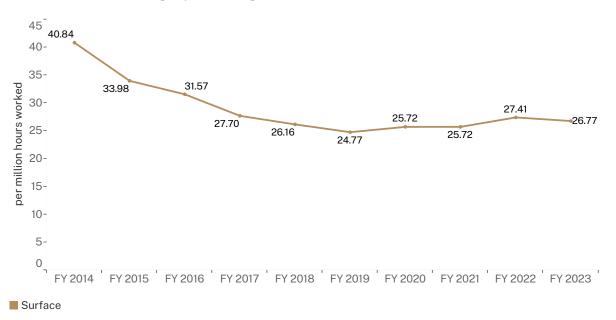
#### Total recordable injuries and hours worked

Figure 59. Extractives sector total recordable injuries and hours worked 2013–14 to 2022–23



#### Total recordable injury frequency rates

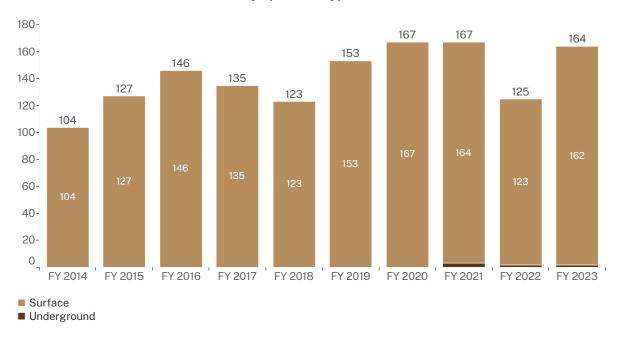
Figure 60. Extractives sector rolling 5-year average TRIFR 2013-14 to 2022-23



#### Notified incidents

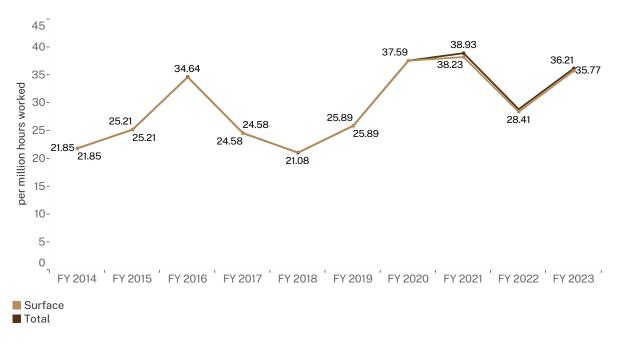
#### Notified incidents by operation type

Figure 61. Extractives sector notified incidents by operation type 2013-14 to 2022-23



#### Incident notification rates

Figure 62. Extractives sector incident notification rate 2013-14 to 2022-23



#### 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.

Figure 63 shows a breakdown of the types of incidents notified by the extractives sector since 2018–19, including notifications for incidents unrelated to injury and illness. Comparable results were observed across the 5-year period.

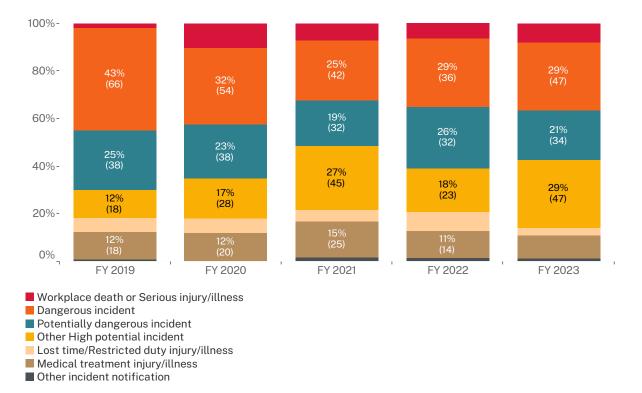


Figure 63. Extractives sector incident notification profile 2018-19 to 2022-23

#### Proportion of extractives mines notifying incidents

While the number of extractives mines notifying incidents has increased by 21% in the 10 years since 2013–14 (from 63 to 76 in 2022–23), 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 10-year reporting period.

The table provided below excludes the exploration sector so the numbers will be different to those previously reported. See <u>Explanatory notes</u>.

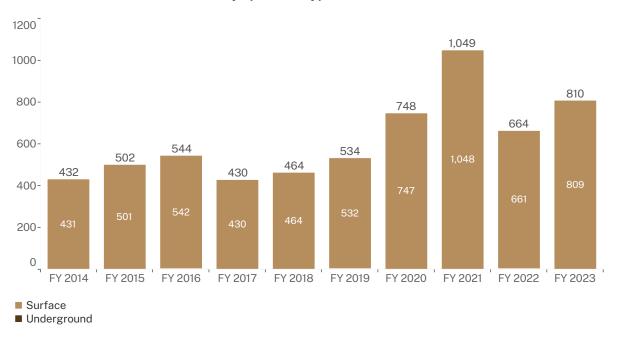
Table 5. Extractives sector proportion of mines that notified an incident 2013–14 to 2022–23

Measure	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Number of notified incidents	104	127	146	135	123	153	167	167	125	164
Number of active mines	2,419	2,476	2,583	2,524	2,553	2,501	2,534	2,489	2,481	2,430
Number of mines that notified an incident	63	68	78	69	73	79	76	91	82	76
% of mines that notified an incident	3%	3%	3%	3%	3%	3%	3%	4%	3%	3%

#### Notices issued

#### Notices issued by operation type

Figure 64. Extractives sector notices issued by operation type 2013-14 to 2022-23

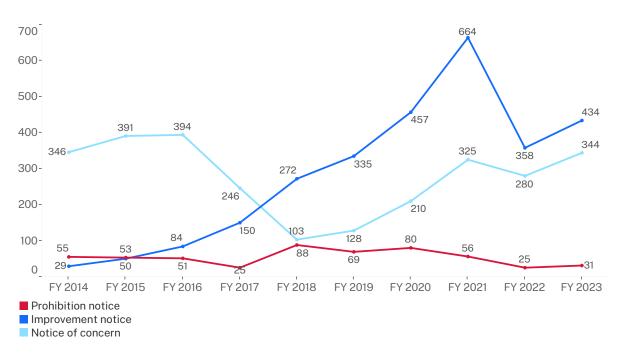


#### Notices issued by notice type

Since 2017–18, changes to the type of notices issued reflect the Regulator's renewed focus on incident prevention as outlined in its <u>Compliance and Enforcement Approach (2017)</u>. 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 Figure 65.

Figure 65. Extractives sector notices issued by notice type 2013-14 to 2022-23



# 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 serious injury is a work-related injury or illness where the nature of injury or illness is defined by the relevant legislation.
	Serious injuries and illnesses for the reporting period provided (from 2009–10 to 2022–23) are defined under:
	• Section 189 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2022. Applicable from 1 September 2022.
	• Section 178 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014. Applicable from 1 February 2015 to 31 August 2022.
	<ul> <li>Clauses 55(a)(i)-(vi) or 55(c)(v) of the Coal Mine Health and Safety Regulation 2006 (CMHSR). Applicable from 23 December 2006 to 31 January 2015.</li> </ul>
	<ul> <li>Clauses 145(a)(i)-(vi) or 145(c)(iv) of the Mine Health and Safety Regulation 2007 (MHSR). Applicable from 1 September 2008 to 31 January 2015</li> </ul>
	Note: Under the Coal Mine Health and Safety Regulation 2006 (CMHSR) and under the Mine Health and Safety Regulation 2007 (MHSR), any injury that resulted solely in an outcome of hospital inpatient admission and/or loss of consciousness (CMHSR 55(a)(vii) and 55(b) and MHSR 145(a)(vii) and 145(b)) was classified as non-serious.
	To provide equivalence in serious injuries across the serious injury definitions in the previous legislation and current legislation, the serious injuries included for the reporting period (from 2009-10 to 2022-23) consist of:
	<ul> <li>Injuries classified with an injury classification of 'injury   serious   work-related' or 'illness   serious   work-related'</li> </ul>
	<ul> <li>Any non-serious injuries with outcomes that resulted in hospital inpatient admission and/ or loss of consciousness.</li> </ul>
	Note: 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.

#### 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 <u>here</u>.

#### **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	23/12/2006	Repealed
Coal Mine Health and Safety Regulation 2006		
Mine Health and Safety Act 2004	1/09/2008	Repealed
Mine Health and Safety Regulation 2007		
Explosives Regulation 2013	1/09/2013	Current
Work Health and Safety (Mines and Petroleum Sites) Act 2013	1/02/2015	Current
Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	01/09/2022	Current

#### Incident notification types under current legislation (as at 30 June 2022)

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 2022	s 189	
Dangerous incide	ent	Work Health and Safety (Mines and Petroleum Sites) Act 2013	s 14(c)	
		Work Health and Safety (Mines and Petroleum Sites) Regulation 2022	s 190	
High potential incident	Potentially dangerous incident	Work Health and Safety (Mines and Petroleum Sites) Regulation 2022	s 124(5)(a)	
	Other high potential incident	Work Health and Safety (Mines and Petroleum Sites) Regulation 2022	s 124(5)(b)-(w)	
		Petroleum Siles) Regulation 2022	(except those notified under s 124 (5)(n) and s 124(5)(o))	
	Lost time/Restricted duty	Work Health and Safety (Mines and	s 124(5)(n)	
	injury/illness ≥ 7 days	Petroleum Sites) Regulation 2022	s 124(5)(o)	
Medical treatme	nt injury	Work Health and Safety (Mines and Petroleum Sites) Regulation 2022	s 124(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 126 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2022 (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 illness 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
	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	Occupational Health and Safety Act 2000 (repealed 1 Jan 2012)	s 91	Issue of improvement notices
	potential contravention.	Work Health and Safety Act 2011	s 191	Issue of improvement notices
		Work Health and Safety (Mines and Petroleum Sites) Act 2013	s 49	Issue of improvement notices
notice	Notice prohibiting carrying on of an activity or carrying on	Occupational Health and Safety Act 2000 (repealed 1 Jan 2012)	s 93	Issue of prohibition notices
	of an activity in a way that involves or will involve serious risk to health and safety.	Coal Mine Health and Safety Regulation 2006 (repealed 1 Feb 2015)	cl 51	Chief Inspector may impose prohibitions or restrictions or direct evacuation or closure of coal operation
	In an underground mine this may require removal of workers from underground areas.	Mine Health and 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
		Work Health and Safety (Mines and Petroleum Sites) Act 2013	s 50	Issue of prohibition notices
Non-disturbance notice	Notice requiring the person to preserve the site or prevent the disturbance of a	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
	particular site.	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 5-year average rates	The total number of injuries/illnesses or incidents in the 5 years divided by total hours worked in the 5 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. In this report exploration is included in surface operations. Both surface and underground activity occurring at an underground operation is considered as underground activity.

#### Mining sectors and mine types

Mining sector	Mine type
Coal mines	<ul> <li>Coal</li> <li>Declared plant — coal preparation plant</li> </ul>
Metalliferous mines	<ul><li>Metals</li><li>Mineral sands</li></ul>
Extractives mines	<ul><li>Construction materials</li><li>Industrial minerals</li></ul>
Petroleum and geothermal sites	<ul><li>Petroleum</li><li>Geothermal</li></ul>
Opal mines	<ul> <li>Small scale titles</li> <li>Opal claims</li> <li>Gemstones or precious stones with operation type of opal mining (all types)</li> </ul>
Exploration sites	Excludes petroleum and geothermal sites
Other mines	<ul> <li>Gemstones or precious stones (excluding operation type of opal mining (all types))</li> <li>Readymix or bitumen</li> <li>Ancillary to mining</li> <li>Waste mining</li> <li>Treatment plant</li> </ul>

#### Mine operation types

Mining sector operation type	Mine operation type
Underground	Underground
Surface	Open cut
	<ul> <li>Processing</li> </ul>
	Borrow pit
	Dredging
	Exploration
	Exploration wells
	Opal mining (all types)
	Production wells

#### **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
- petroleum and geothermal sites with a status of suspended.

#### Appendix 3. Sector data

Surface coal mines	2013-14	2014-15	2015–16	2016–17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Active mines	54	53	57	68	68	77	79	76	65	61
Hours worked	29,115,708	27,971,027	26,274,561	27,656,810	29,264,621	34,168,786	33,619,129	32,440,480	30,922,788	33,629,073
Full time equivalent workers	14,558	13,986	13,137	13,828	14,632	17,084	16,810	16,220	15,461	16,815
Fatal injuries	2	0	0	1	0	1	0	0	0	0
Fatal injury 5-year average frequency rate	0.014	0.014	0.014	0.021	0.021	0.014	0.013	0.013	0.006	0.006
Serious injuries	23	20	21	25	23	13	25	27	21	21
Serious injury 5-year average frequency rate	1.02	0.95	0.93	0.86	0.80	0.70	0.71	0.72	0.68	0.65
Lost time injuries	55	40	52	53	73	93	78	90	64	53
Lost time injury 5-year average frequency rate	2.50	2.18	2.17	1.98	1.95	2.14	2.31	2.46	2.48	2.29
Total recordable injuries	170	154	171	171	192	199	156	198	149	147
Total recordable injury 5-year average frequency rate	7.72	6.90	6.50	6.19	6.12	6.10	5.89	5.83	5.57	5.15
Incident notifications	646	451	517	457	585	611	595	661	571	604
Incident notification annual frequency rate	22.19	16.12	19.68	16.52	19.99	17.88	17.70	20.38	18.47	17.96
% of mines that notified an incident	81%	75%	72%	62%	66%	57%	59%	59%	65%	70%
Incident rate per notifying mine	14.68	11.28	12.61	10.88	13.00	13.89	12.66	14.69	13.60	14.05
Workplace death or serious injury/illness notifications				17	23	13	17	29	11	23
Dangerous Incident notifications				117	173	165	154	93	106	128
Potentially dangerous incident notifications				168	176	190	178	129	129	136
Other High Potential incident notifications				65	103	115	142	251	221	215
Lost time/Restricted duty injury/illness ≥ 7 days notifications				37	48	84	72	111	47	68
Medical treatment injury notifications				48	58	36	28	40	47	28
Other incident notifications				5	4	8	4	8	10	6
Notices issued	225	247	261	134	207	271	298	283	151	208
Notices of concern issued	185	196	155	63	65	78	121	107	48	68
Improvement notices issued	15	31	71	58	105	153	151	146	80	98
Prohibition notices issued	21	18	22	13	33	34	21	29	21	39
Non-disturbance notices issued	4	2	13	0	4	6	5	1	2	3

Underground coal mines	2013-14	2014-15	2015-16	2016–17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Active mines	29	30	38	43	43	46	43	42	39	40
Hours worked	18,977,766	14,863,344	13,461,814	13,439,336	13,797,079	14,932,163	14,218,301	13,672,292	13,078,213	13,234,539
Full time equivalent workers	9,489	7,432	6,731	6,720	6,899	7,466	7,109	6,836	6,539	6,617
Fatal injuries	2	0	0	0	0	0	0	0	0	0
Fatal injury 5-year average frequency rate	0.031	0.032	0.022	0.024	0.027	0.000	0.000	0.000	0.000	0.000
Serious injuries	63	58	37	51	29	53	45	42	29	36
Serious injury 5-year average frequency rate	4.22	3.95	3.75	3.67	3.19	3.23	3.08	3.14	2.84	2.97
Lost time injuries	161	114	106	128	111	125	119	115	80	77
Lost time injury 5-year average frequency rate	9.62	8.90	8.15	8.17	8.32	8.28	8.43	8.54	7.89	7.46
Total recordable injuries	641	440	410	402	452	430	379	358	311	337
Total recordable injury 5-year average frequency rate	38.78	35.15	32.56	30.84	31.46	30.27	29.68	28.85	27.69	26.25
Incident notifications	1,650	1,360	1,378	1,133	1,055	1,002	1,077	893	882	1013
Incident notification annual frequency rate	86.94	91.50	102.36	84.30	76.47	67.10	75.75	65.31	67.44	76.54
% of mines that notified an incident	110%	107%	74%	67%	70%	57%	65%	57%	59%	65%
Incident rate per notifying mine	51.56	42.50	49.21	39.07	35.17	38.54	38.46	37.21	38.35	38.96
Workplace death or serious injury/illness notifications				41	30	43	37	43	24	40
Dangerous Incident notifications				112	90	89	106	68	81	91
Potentially dangerous incident notifications				212	212	175	175	126	119	138
Other High Potential incident notifications				538	480	414	441	390	376	426
Lost time/Restricted duty injury/illness ≥ 7 days notifications				147	108	186	232	210	216	240
Medical treatment injury notifications				83	135	95	86	56	66	77
Other incident notifications				0	0	0	0	0	0	1
Notices issued	419	524	442	412	368	382	265	473	304	294
Notices of concern issued	367	434	279	172	91	137	103	166	93	133
Improvement notices issued	19	47	106	187	188	194	130	273	196	122
Prohibition notices issued	30	39	51	43	83	42	32	31	13	35
Non-disturbance notices issued	3	4	6	10	6	9	0	3	2	4

All coal mines	2013-14	2014–15	2015-16	2016–17	2017–18	2018-19	2019-20	2020-21	2021-22	2022-23
Active mines	83	83	95	111	111	123	122	118	104	101
Hours worked	48,093,474	42,834,371	39,736,375	41,096,146	43,061,700	49,100,948	47,837,430	46,112,772	44,001,001	46,863,612
Full time equivalent workers	24,047	21,417	19,868	20,548	21,531	24,550	23,919	23,056	22,001	23,432
Fatal injuries	4	0	0	1	0	1	0	0	0	0
Fatal injury 5-year average frequency rate	0.021	0.021	0.017	0.022	0.023	0.009	0.009	0.009	0.004	0.004
Serious injuries	86	78	58	76	52	66	70	69	50	57
Serious injury 5-year average frequency rate	2.33	2.13	2.00	1.88	1.63	1.53	1.46	1.47	1.33	1.33
Lost time injuries	216	154	158	181	184	218	197	205	144	130
Lost time injury 5-year average frequency rate	5.42	4.81	4.44	4.24	4.16	4.15	4.25	4.34	4.12	3.82
Total recordable injuries	811	594	581	573	644	629	535	556	460	484
Total recordable injury 5-year average frequency rate	20.44	17.98	16.38	15.20	14.91	14.00	13.41	12.93	12.27	11.39
Incident notifications	2,296	1,811	1,895	1,590	1,640	1,613	1,672	1,554	1,453	1,617
Incident notification annual frequency rate	47.74	42.28	47.69	38.69	38.08	32.85	34.95	33.70	33.02	34.50
% of mines that notified an incident	92%	87%	73%	64%	68%	57%	61%	58%	63%	68%
Incident rate per notifying mine	30.21	25.15	27.46	22.39	21.87	23.04	22.29	22.52	22.35	23.43
Workplace death or serious injury/illness notifications				58	53	56	54	72	35	63
Dangerous Incident notifications				229	263	254	260	161	187	219
Potentially dangerous incident notifications				380	388	365	353	255	248	274
Other High Potential incident notifications				603	583	529	583	641	597	641
Lost time/Restricted duty injury/illness ≥ 7 days notifications				184	156	270	304	321	263	308
Medical treatment injury notifications				131	193	131	114	96	113	105
Other incident notifications				5	4	8	4	8	10	7
Notices issued	644	771	703	546	575	653	563	756	455	502
Notices of concern issued	552	630	434	235	156	215	224	273	141	201
Improvement notices issued	34	78	177	245	293	347	281	419	276	220
Prohibition notices issued	51	57	73	56	116	76	53	60	34	74
Non-disturbance notices issued	7	6	19	10	10	15	5	4	4	7

Surface metalliferous mines	2013-14	2014–15	2015-16	2016–17	2017–18	2018-19	2019-20	2020-21	2021-22	2022-23
Active mines	44	46	52	68	65	69	58	47	47	46
Hours worked	2,434,795	2,015,321	1,869,538	5,206,357	4,953,219	6,108,824	6,863,880	5,782,590	5,522,305	5,654,876
Full time equivalent workers	1,217	1,008	935	2,603	2,477	3,054	3,432	2,891	2,761	2,827
Fatal injuries	0	0	0	0	0	1	1	0	0	0
Fatal injury 5-year average frequency rate	0.000	0.000	0.000	0.000	0.000	0.050	0.080	0.069	0.068	0.067
Serious injuries	3	3	3	3	1	3	2	6	10	4
Serious injury 5-year average frequency rate	0.97	1.07	1.42	0.94	0.79	0.65	0.48	0.52	0.75	0.84
Lost time injuries	2	7	5	11	10	9	12	13	18	12
Lost time injury 5-year average frequency rate	1.37	1.40	1.82	2.06	2.12	2.08	1.88	1.90	2.12	2.14
Total recordable injuries	14	14	50	47	32	29	35	32	39	65
Total recordable injury 5-year average frequency rate	6.36	6.18	9.51	10.06	9.53	8.53	7.72	6.05	5.71	6.68
Incident notifications	45	34	45	51	27	48	48	65	60	73
Incident notification annual frequency rate	18.48	16.87	24.07	9.80	5.45	7.86	6.99	11.24	10.87	12.91
% of mines that notified an incident	16%	15%	12%	7%	12%	7%	17%	17%	19%	22%
Incident rate per notifying mine	6.43	4.86	7.50	10.20	3.38	9.60	4.80	8.13	6.67	7.30
Workplace death or serious injury/illness notifications				2	1	6	3	4	9	5
Dangerous Incident notifications				23	12	22	24	21	13	12
Potentially dangerous incident notifications				15	9	10	14	9	11	22
Other High Potential incident notifications				3	2	4	3	15	11	19
Lost time/Restricted duty injury/illness ≥ 7 days notifications				0	0	2	0	6	6	10
Medical treatment injury notifications				7	3	4	3	10	10	4
Other incident notifications				1	0	0	1	0	0	1
Notices issued	27	28	30	30	55	72	99	122	71	103
Notices of concern issued	26	26	23	20	18	30	27	35	26	29
Improvement notices issued	1	1	6	7	26	38	56	78	40	63
Prohibition notices issued	0	1	0	3	9	4	16	9	4	10
Non-disturbance notices issued	0	0	1	0	2	0	0	0	1	1

Underground metalliferous mines	2013-14	2014-15	2015–16	2016–17	2017–18	2018-19	2019-20	2020-21	2021-22	2022-23
Active mines	37	39	46	41	42	47	47	46	49	49
Hours worked	12,166,610	11,399,868	9,567,694	7,862,909	7,656,207	7,553,978	8,107,463	8,980,662	9,257,387	9,679,700
Full time equivalent workers	6,083	5,700	4,784	3,931	3,828	3,777	4,054	4,490	4,629	4,840
Fatal injuries	1	0	1	1	0	0	0	0	0	0
Fatal injury 5-year average frequency rate	0.041	0.037	0.055	0.078	0.062	0.045	0.049	0.025	0.000	0.000
Serious injuries	7	15	23	18	7	16	18	23	19	10
Serious injury 5-year average frequency rate	1.40	1.30	1.36	1.43	1.44	1.79	2.01	2.04	2.00	1.97
Lost time injuries	22	21	36	33	15	19	38	30	20	33
Lost time injury 5-year average frequency rate	2.85	2.29	2.44	2.72	2.61	2.82	3.46	3.36	2.94	3.21
Total recordable injuries	238	213	178	177	116	130	145	156	133	111
Total recordable injury 5-year average frequency rate	23.31	21.53	20.83	20.71	18.95	18.48	18.31	18.03	16.36	15.49
Incident notifications	168	180	190	187	214	214	248	263	252	289
Incident notification annual frequency rate	13.81	15.79	19.86	23.78	27.95	28.33	30.59	29.29	27.22	29.86
% of mines that notified an incident	51%	46%	43%	44%	43%	38%	36%	39%	33%	43%
Incident rate per notifying mine	8.84	10.00	9.50	10.39	11.89	11.89	14.59	14.61	15.75	13.76
Workplace death or serious injury/illness notifications				17	7	11	16	15	11	13
Dangerous Incident notifications				73	85	90	98	89	82	100
Potentially dangerous incident notifications				43	53	45	40	33	34	53
Other High Potential incident notifications				16	35	34	38	63	45	51
Lost time/Restricted duty injury/illness ≥ 7 days notifications				5	3	14	34	31	38	49
Medical treatment injury notifications				32	30	19	22	31	39	20
Other incident notifications				1	1	1	0	1	3	3
Notices issued	52	55	91	150	200	428	321	389	261	225
Notices of concern issued	44	45	72	86	57	152	122	119	103	86
Improvement notices issued	2	3	12	41	117	236	172	224	132	114
Prohibition notices issued	3	2	7	19	24	39	26	44	24	23
Non-disturbance notices issued	3	5	0	4	2	1	1	2	2	2

All metalliferous mines	2013-14	2014–15	2015-16	2016–17	2017–18	2018-19	2019-20	2020-21	2021-22	2022-23
Active mines	81	85	98	109	107	116	105	93	96	95
Hours worked	14,601,405	13,415,189	11,437,232	13,069,266	12,609,426	13,662,802	14,971,343	14,763,252	14,779,692	15,334,576
Full time equivalent workers	7,301	6,708	5,719	6,535	6,305	6,831	7,486	7,382	7,390	7,667
Fatal injuries	1	0	1	1	0	1	1	0	0	0
Fatal injury 5-year average frequency rate	0.029	0.028	0.043	0.060	0.046	0.047	0.061	0.043	0.028	0.027
Serious injuries	10	18	26	21	8	19	20	29	29	14
Serious injury 5-year average frequency rate	1.28	1.24	1.37	1.31	1.27	1.43	1.43	1.40	1.48	1.51
Lost time injuries	24	28	41	44	25	28	50	43	38	45
Lost time injury 5-year average frequency rate	2.43	2.07	2.31	2.56	2.49	2.59	2.86	2.75	2.60	2.78
Total recordable injuries	252	227	228	224	148	159	180	188	172	176
Total recordable injury 5-year average frequency rate	18.47	17.71	18.41	18.17	16.57	15.36	14.28	13.01	11.97	11.90
Incident notifications	213	214	235	238	241	262	296	328	312	362
Incident notification annual frequency rate	14.59	15.95	20.55	18.21	19.11	19.18	19.77	22.22	21.11	23.61
% of mines that notified an incident	32%	29%	27%	21%	24%	20%	26%	28%	26%	33%
Incident rate per notifying mine	8.19	8.56	9.04	10.35	9.27	11.39	10.96	12.62	12.48	11.68
Workplace death or serious injury/illness notifications				19	8	17	19	19	20	18
Dangerous Incident notifications				96	97	112	122	110	95	112
Potentially dangerous incident notifications				58	62	55	54	42	45	75
Other High Potential incident notifications				19	37	38	41	78	56	70
Lost time/Restricted duty injury/illness ≥ 7 days notifications				5	3	16	34	37	44	59
Medical treatment injury notifications				39	33	23	25	41	49	24
Other incident notifications				2	1	1	1	1	3	4
Notices issued	79	83	121	180	255	500	420	511	332	328
Notices of concern issued	70	71	95	106	75	182	149	154	129	115
Improvement notices issued	3	4	18	48	143	274	228	302	172	177
Prohibition notices issued	3	3	7	22	33	43	42	53	28	33
Non-disturbance notices issued	3	5	1	4	4	1	1	2	3	3

All extractives mines	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Active mines	2,419	2,476	2,583	2,524	2,553	2,501	2,534	2,489	2,481	2,430
Hours worked	4,760,178	5,037,677	4,214,459	5,491,300	5,836,284	5,908,653	4,442,643	4,289,589	4,329,307	4,528,790
Full time equivalent workers	2,380	2,519	2,107	2,746	2,918	2,954	2,221	2,145	2,165	2,264
Fatal injuries	0	2	0	0	0	0	0	1	0	0
Fatal injury 5-year average frequency rate	0.000	0.086	0.086	0.082	0.079	0.076	0.000	0.039	0.040	0.043
Serious injuries	12	8	18	11	11	4	12	17	9	12
Serious injury 5-year average frequency rate	2.09	2.03	2.45	2.35	2.37	1.96	2.16	2.12	2.14	2.30
Lost time injuries	49	40	46	47	41	46	26	42	36	30
Lost time injury 5-year average frequency rate	11.28	10.51	10.14	9.85	8.80	8.31	7.96	7.78	7.70	7.66
Total recordable injuries	170	97	124	114	158	163	107	126	126	107
Total recordable injury 5-year average frequency rate	40.84	33.98	31.57	27.70	26.16	24.77	25.72	25.72	27.41	26.77
Incident notifications	104	127	146	135	123	153	167	167	125	164
Incident notification annual frequency rate	21.85	25.21	34.64	24.58	21.08	25.89	37.59	38.93	28.87	36.21
% of mines that notified an incident	3%	3%	3%	3%	3%	3%	3%	4%	3%	3%
Incident rate per notifying mine	1.65	1.87	1.87	1.96	1.68	1.94	2.11	1.84	1.52	2.16
Workplace death or serious injury/illness notifications				11	10	3	17	12	8	13
Dangerous Incident notifications				51	47	66	54	42	36	47
Potentially dangerous incident notifications				41	27	38	38	32	32	34
Other High Potential incident notifications				12	6	18	28	45	23	47
Lost time/Restricted duty injury/illness ≥ 7 days notifications				5	3	9	10	8	10	5
Medical treatment injury notifications				14	29	18	20	25	14	16
Other incident notifications				1	1	1	0	3	2	2
Notices issued	432	502	544	430	464	534	748	1,049	664	810
Notices of concern issued	346	391	394	246	103	128	210	325	280	344
Improvement notices issued	29	50	84	150	272	335	457	664	358	434
Prohibition notices issued	55	53	51	25	88	69	80	56	25	31
Non-disturbance notices issued	2	8	15	9	1	2	1	4	1	1

All coal, metalliferous and extractives mines	2013-14	2014–15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Active mines	2,583	2,644	2,776	2,744	2,771	2,740	2,761	2,700	2,681	2,626
Hours worked	67,455,057	61,287,237	55,388,066	59,656,712	61,507,409	68,672,403	67,251,415	65,165,612	63,110,000	66,726,978
Full time equivalent workers	33,728	30,644	27,694	29,828	30,754	2,954	33,626	32,583	31,555	33,363
Fatal injuries	5	2	1	2	0	2	1	1	0	0
Fatal injury 5-year average frequency rate	0.021	0.027	0.027	0.035	0.033	0.023	0.019	0.019	0.012	0.012
Serious injuries	108	104	102	108	71	89	102	115	88	83
Serious injury 5-year average frequency rate	2.10	1.94	1.90	1.80	1.61	1.55	1.51	1.51	1.43	1.44
Lost time injuries	289	222	245	272	250	292	273	290	218	205
Lost time injury 5-year average frequency rate	5.18	4.62	4.39	4.32	4.19	4.18	4.26	4.27	4.06	3.86
Total recordable injuries	1,233	918	933	911	950	951	822	870	758	767
Total recordable injury 5-year average frequency rate	21.39	19.02	17.89	16.79	16.20	15.21	14.62	13.98	13.36	12.59
Incident notifications	2,613	2,152	2,276	1,963	2,004	2,028	2,135	2,049	1,890	2,143
Incident notification annual frequency rate	38.74	35.11	41.09	32.90	32.58	29.53	31.75	31.44	29.95	32.12
% of mines that notified an incident	6%	6%	6%	6%	6%	6%	7%	7%	6%	7%
Incident rate per notifying mine	15.84	13.04	13.16	12.04	11.51	11.79	11.80	11.02	10.99	12.18
Workplace death or serious injury/illness notifications				88	71	76	90	103	63	94
Dangerous Incident notifications				376	407	432	436	313	318	378
Potentially dangerous incident notifications				479	477	458	445	329	325	383
Other High Potential incident notifications				634	626	585	652	764	676	758
Lost time/Restricted duty injury/illness ≥ 7 days notifications				194	162	295	348	366	317	372
Medical treatment injury notifications				184	255	172	159	162	176	145
Other incident notifications				8	6	10	5	12	15	13
Notices issued	1,155	1,356	1,368	1,156	1,294	1,687	1,731	2,316	1,451	1,640
Notices of concern issued	968	1,092	923	587	334	525	583	752	550	660
Improvement notices issued	66	132	279	443	708	956	966	1,385	806	831
Prohibition notices issued	109	113	131	103	237	188	175	169	87	138
Non-disturbance notices issued	12	19	35	23	15	18	7	10	8	11

#### Appendix 4. Other sectors

# NSW Resources Regulator sector reporting

# Petroleum and geothermal

Onshore petroleum and geothermal sites including exploration

#### Opal mines

Small scale titles and opal claims, gemstones or precious stones

#### **Exploration**

Exploration sites including petroleum and geothermal

#### Petroleum and geothermal sector

#### Fatal injuries, serious injuries, notified incidents and active mines

In 2022–23 there were no incidents notified in the petroleum and geothermal sector, in line with the previous 5 years. No fatal or serious injuries have been notified in the 10 years since 2013–14.

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 2022–23 there were 123 active petroleum and geothermal sites, remaining steady compared to 2021–22 and a decrease of 70% from a peak in 2016–17.

Table 6. Petroleum and geothermal sector fatal injuries, serious injuries and notified incidents 2013–14 to 2022–23

Measure	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	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	4	4	3	0	0	0	0	0	0	0	11
Active mines	283	258	239	405	403	267	194	181	122	123	N/A

#### **Notices issued**

In 2022–23 the Regulator issued 4 notices of concern to the petroleum and geothermal sector. This represented an increase of 3 from the single notice issued in the previous year.

Table 7. Petroleum and geothermal sector notices issued 2013–14 to 2022–23

Measure	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Total
Notices issued	0	0	1	0	9	0	8	15	1	4	38

#### **Opal sector**

#### Fatal injuries, serious injuries, notified incidents and active mines

In 2022-23 there were 2 incidents notified in the opal sector, with one fatality notified. In the 10 years since 2013-14 there have been 3 fatal injuries, 8 serious injuries and 25 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 2022-23 there were 2,385 active opal mines, a decrease of 31% from 2021-22.

Table 8. Opal sector fatal injuries, serious injuries, notified incidents and number of active mines 2013–14 to 2022–23

Measure	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Total
Fatal injuries	0	0	0	1	0	0	0	1	0	1	3
Serious injuries	0	1	2	0	2	2	1	0	0	0	8
Notified incidents	4	1	4	1	4	4	2	1	2	2	25
Active mines	3,500	3,288	3,354	3,487	3,478	3,564	3,944	3,342	3,448	2,385	N/A

#### **Notices issued**

In 2022–23 the Regulator issued 68 notices in the opal sector, comprising 35 improvement notices, 32 prohibition notices and one notice of concern. This represents a decrease of 11% from the previous year. Due to the minimal numbers of non-disturbance and explosives notices, these have not been included in Table 9.

Table 9. Opal sector notices issued 2013–14 to 2022–23

Measure	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Total
Notices issued	3	16	1	159	63	72	162	105	76	68	725

#### **Exploration sector**

#### Fatal injuries, serious injuries, notified incidents and active mines

In 2022–23 there were no fatal injuries, no serious injuries and 6 notified incidents in the exploration sector. In the 10 years since 2013–14, there has been no fatal injuries, 18 serious injuries and 66 notified incidents.

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

In 2022–23 there were 871 active exploration sites excluding petroleum and geothermal, a 2% increase from 2021–22.

Table 10. Exploration sector fatal injuries, serious injuries, notified incidents and number of active mines 2013–14 to 2022–23

Measure	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Total
Fatal injuries	0	0	0	0	0	0	0	0	0	0	0
Serious injuries	2	2	0	1	5	3	3	2	0	0	18
Notified incidents	5	7	3	7	9	6	9	6	8	6	66
Active mines	872	876	822	714	715	753	785	839	856	871	N/A

#### **Notices issued**

In 2022–23 the Regulator issued 21 notices to the exploration sector, comprising 9 improvement notices, 9 notices of concern, 2 prohibition notices and one non-disturbance notice.

#### Table 11. Exploration sector notices issued 2013–14 to 2022–23

Measure	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Total
Notices issued	3	5	6	1	3	5	11	8	5	21	68

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