

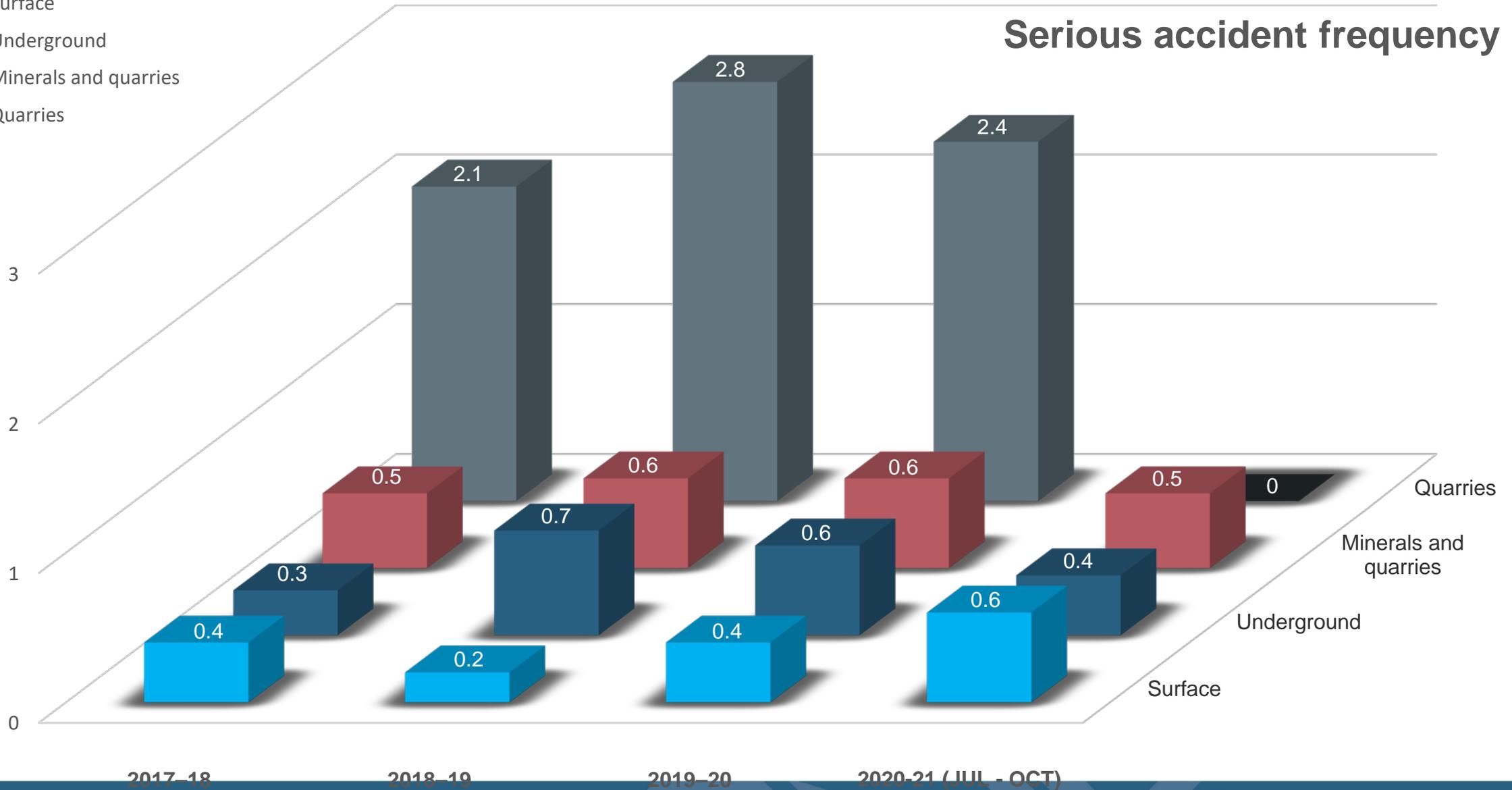
# Incident periodical

High Potential Incidents summary  
Queensland Mineral Mines & Quarries Inspectorate  
November 2020

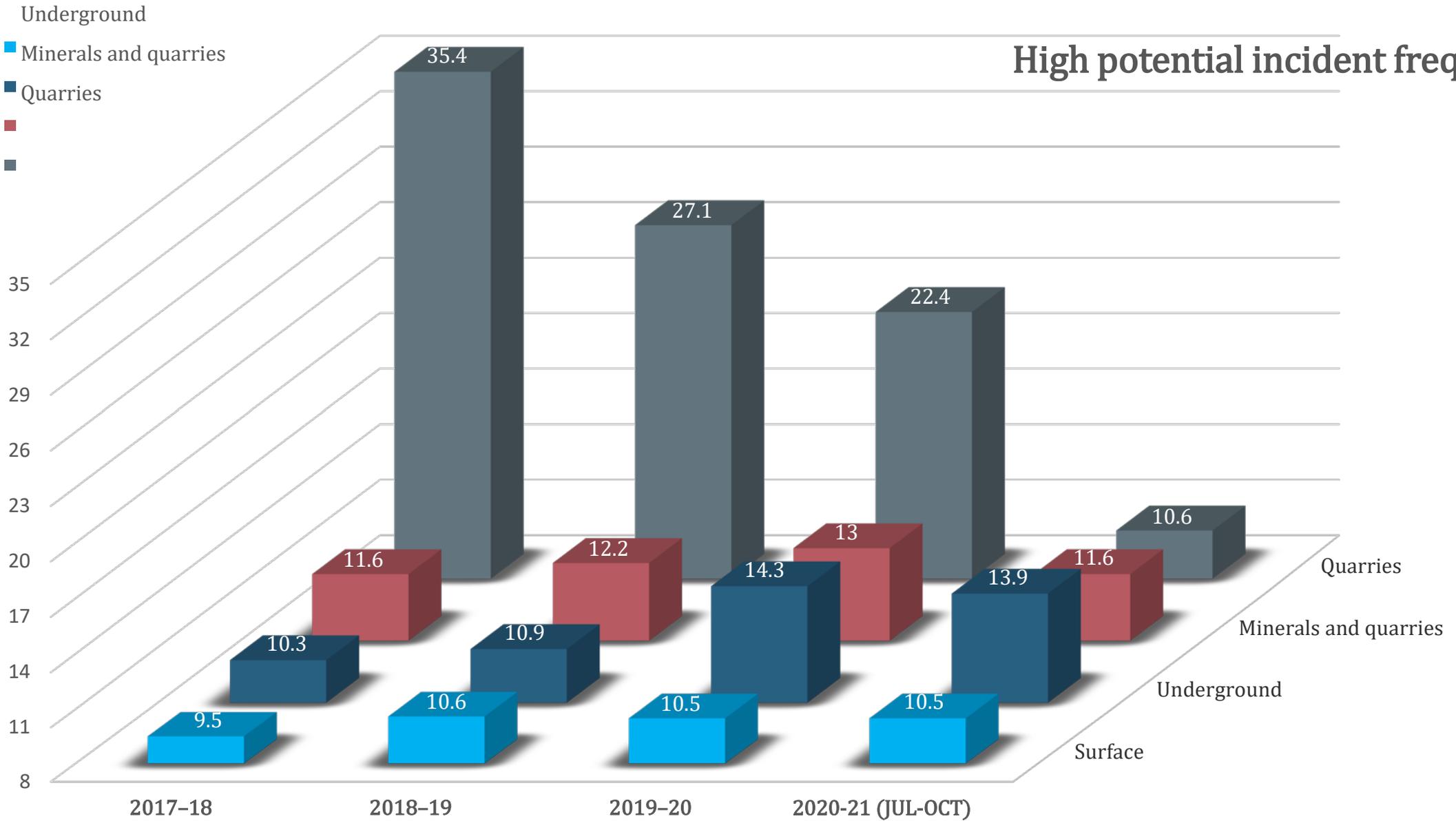


# Serious accident frequency rate

- Surface
- Underground
- Minerals and quarries
- Quarries

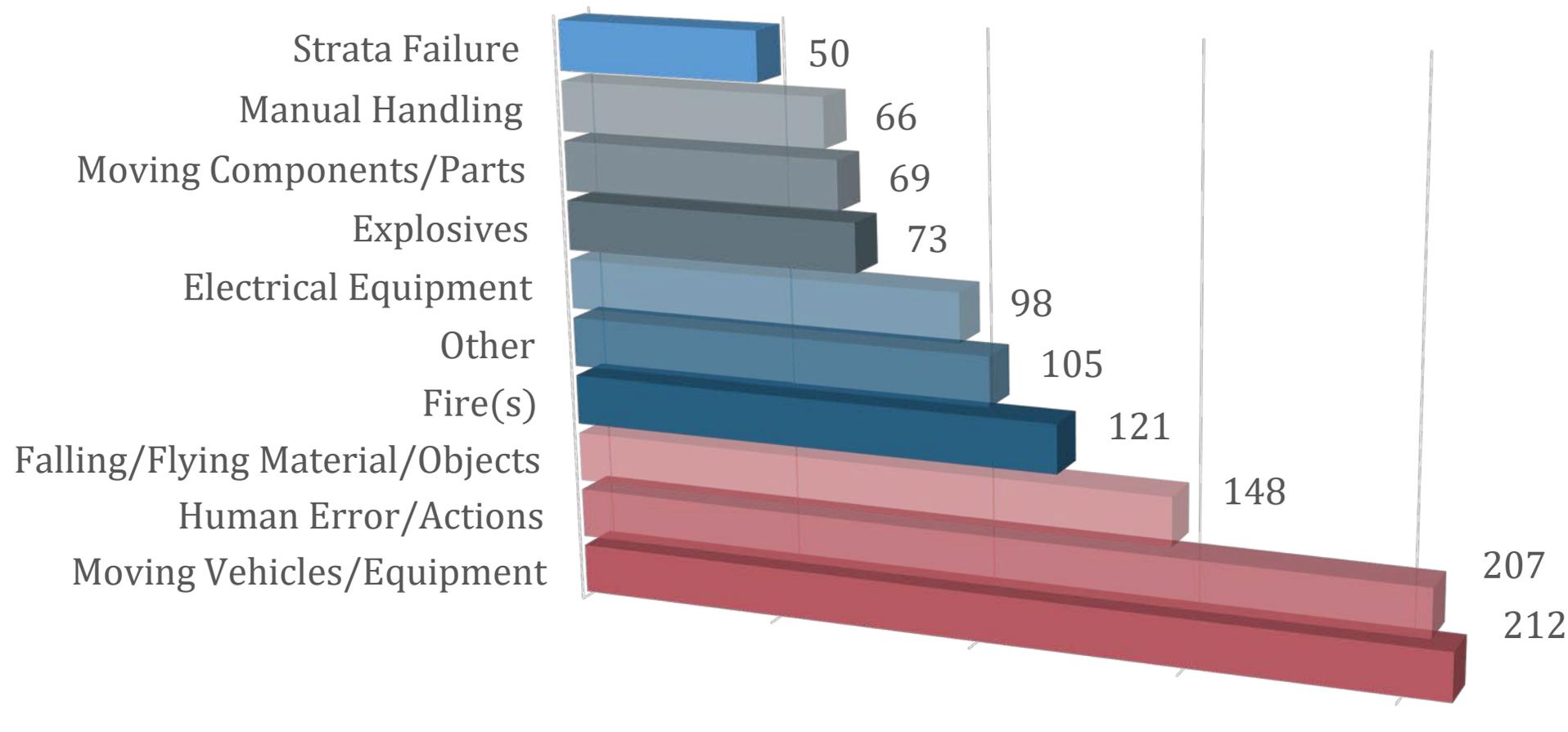


# High potential incident frequency rate



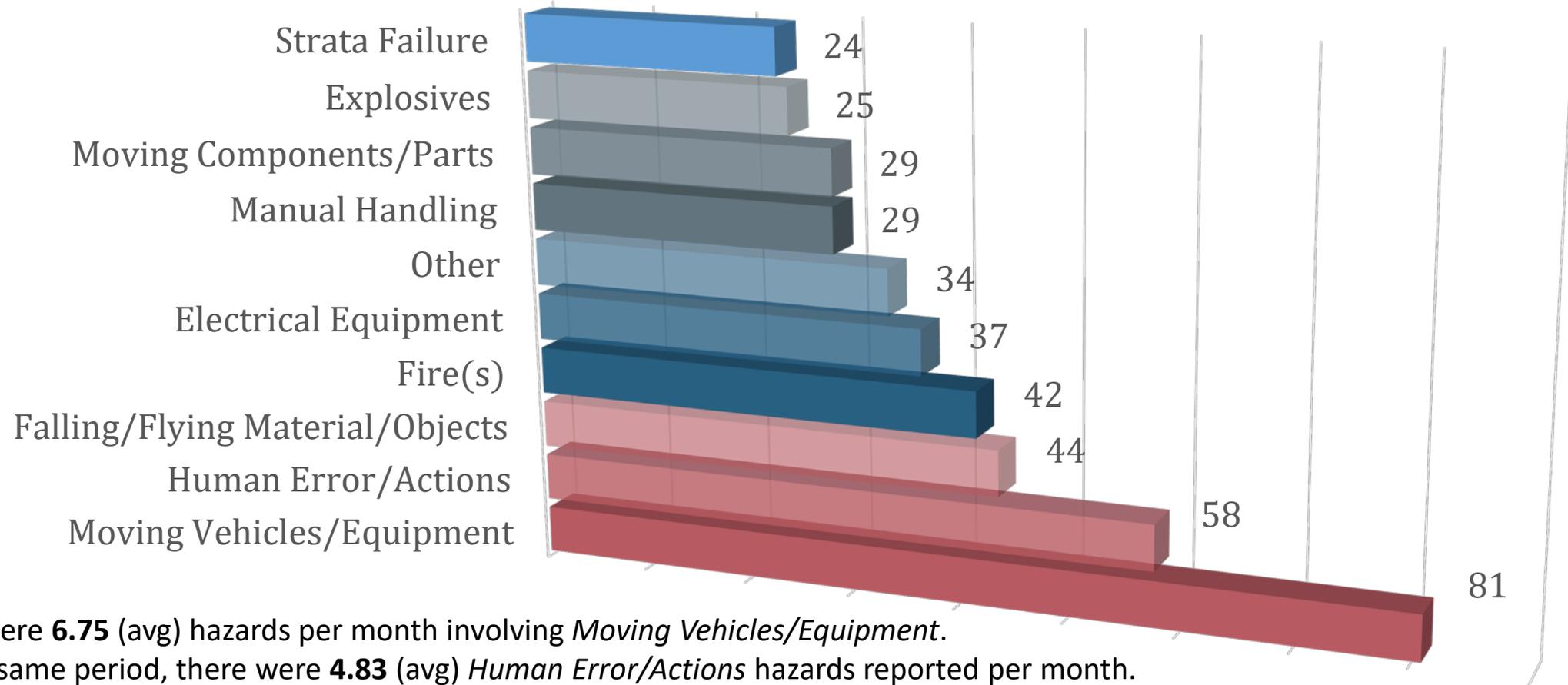
# Top 10 hazards

These graphs compare annual data of the top 10 hazards involving all mineral mine types. **2017-2020 FY**



# Top 10 hazards

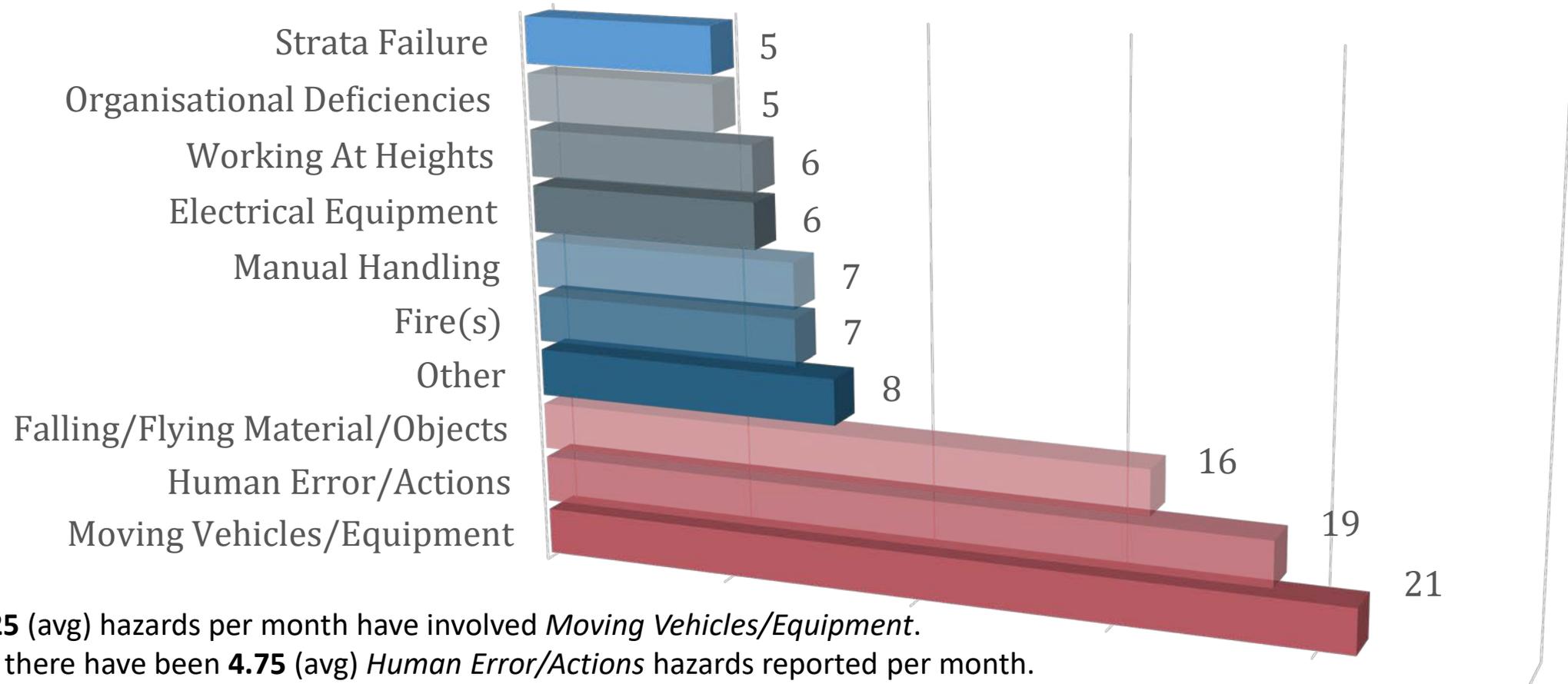
These graphs compare annual data of the top 10 hazards involving all mineral mine types. **2019/20 FY**



- There were **6.75** (avg) hazards per month involving *Moving Vehicles/Equipment*.
- For the same period, there were **4.83** (avg) *Human Error/Actions* hazards reported per month.

# Top 10 hazards

These graphs compare data of the top 10 hazards involving all mineral mine types from: **July 2020 – October 2020**

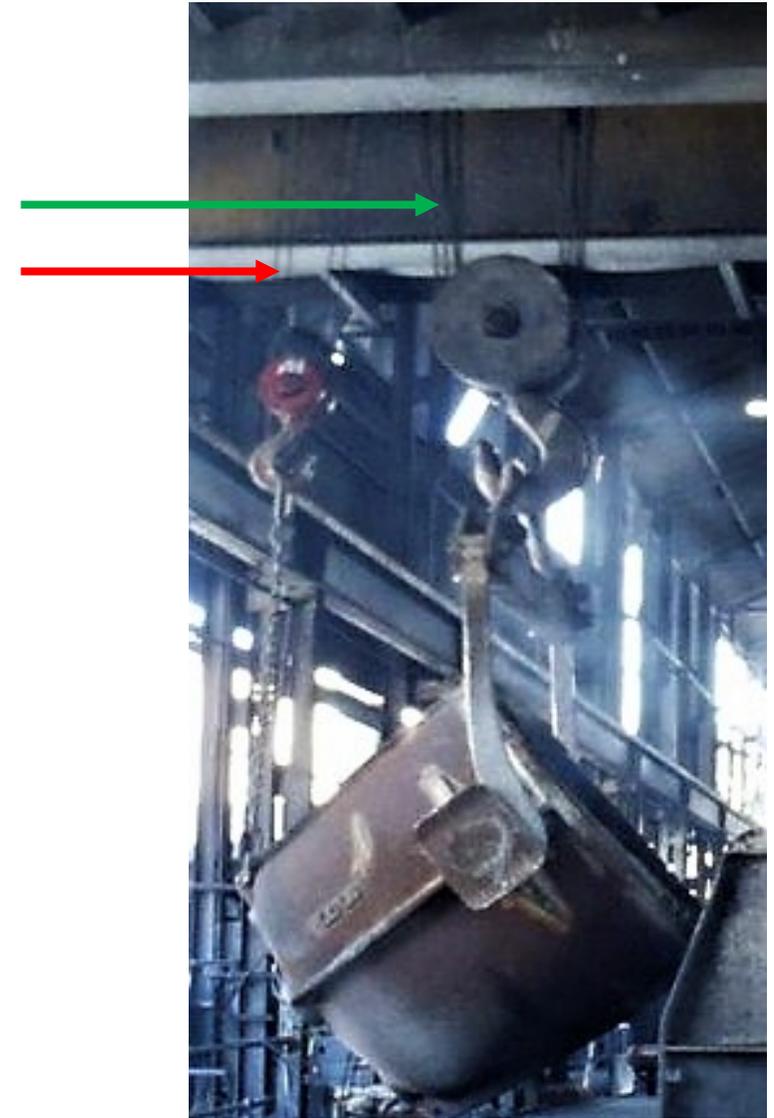


- So far **5.25** (avg) hazards per month have involved *Moving Vehicles/Equipment*.
- Likewise, there have been **4.75** (avg) *Human Error/Actions* hazards reported per month.
- Compared to last year, these numbers show some reduction to hazards involving *Moving Vehicles/Equipment* but little to no reduction with *Human Error/Actions* hazards.

# Wire rope failure.

On 13 November 2020, the 10 mm diameter **auxiliary rope** on a overhead gantry crane in a hot metal plant failed during a lift. The auxiliary hoist tilts the pot and allows it to return its vertical position. The **main hoist rope** raises and lowers the pot.

There were no injuries because the incident occurred within an exclusion zone.



# Wire rope failure.

## Causes

Multiple broken wires were identified after the incident, as seen in the picture.



The monthly inspections did not identify the broken wires which met the discard criteria. The discard criteria was three or more adjacent broken wires in a strand.

412	Drum		
413	Wire rope*	(	mm)

The monthly inspection template:

- Details only one item referencing the rope which calls for the diameter of the rope to be measured and recorded
- Does not have an item requiring to report on broken wires

# Wire rope failure.

## Recommendations

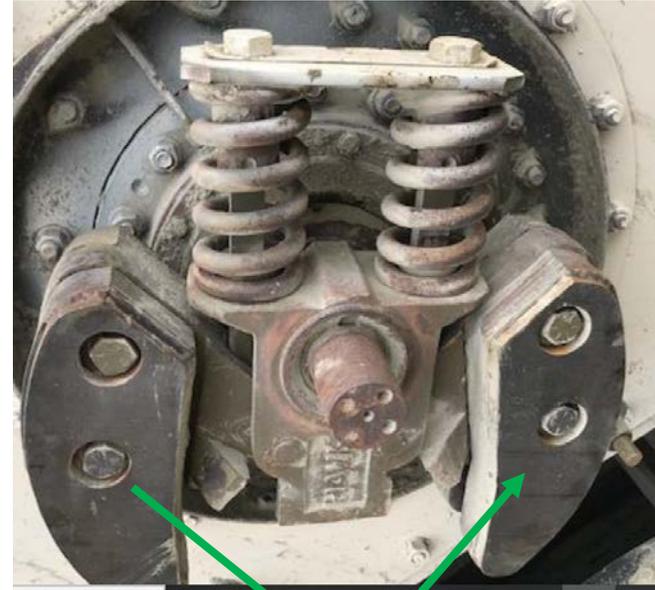
- The outcome of an inspection should be to identify whether the rope is still serviceable or should be discarded. [Administration]
- The Monthly Inspection template should provide task outcomes that support whether the rope is still serviceable or should be discarded. [Administration]
- Train and assess workers who are carrying out prestarts and monthly Inspections so that wire ropes are identified as being fit for further use or should be discarded. [Administration]
- Provide pictures of the rope discard criteria at appropriate workplaces for general information. [Administration]

# Failure of screen counterweight attachment.

On 10 November 2020, the attachment of a counterweight, which is part of the Spring Controlled Mechanism, failed on the drive side of a triple deck vibrating screen. One of the two bob weights, on the drive side of the screen, broke away from the pin holding it onto the hub attached to the screen shaft

The bob weight weighed approximately 5 kg and went through the counterweight guard.

There were no injuries.



The two bob weights in place on the non-drive side

# Failure of screen counterweight attachment.

## Causes

It was known that during the time of the previous ownership before 2005, that there had been failures of the attachment of the bob weights to the hub mounted on the shaft. Subsequently an updated design was introduced. The problem had been that the castings were uneven and the bob weights were not opening an equal distance.

The screen involved in this incident was manufactured in 1998 and had been in storage up until this recent installation.

Note: After 1999 the screens were fitted with fixed counterweights fitted directly onto the shaft.



# Failure of screen counterweight attachment.

## Recommendations

- After purchasing second hand plant, mines and quarries should make contact with the original equipment manufacturer to obtain the instructions manuals and information about any design changes. [Administration]

The current manufacturer has stated that they are not aware of any screens now operating with bob weights attached using the original design.

- Nevertheless owners or users of any screens manufactured before 1999 by Hawk Machinery Pty Ltd and fitted with Spring Controlled Mechanisms should contact them if they do not know whether or not the screen is fitted with the upgraded design. [Administration]
- Until the status of the design is known and the upgraded design is installed, an effective exclusion zone should be put in place while the screen is operating. [Separation]

# Hand struck by lifting chain

On 20 November 2020, a cone crusher was about to be lifted onto a truck by an excavator in crane mode. As the load was taken up by the four legged chain slings, one of the chain legs trapped the worker's hand against a bolt on the crusher.

The worker received soft tissue injuries to their thumb.



This is a static re-enactment

# Hand struck by lifting chain

## Causes

The injured worker had their hand on the cone crusher in anticipation that it would swing once the load was freely suspended.

The injured worker was giving directions to the excavator operator and had not been trained or assessed to perform the role of a dogger.

The excavator operator was trained and assessed to operate the excavator but this worker was also the supervisor.

# Hand struck by lifting chain.

## Recommendations

- A tag line should be attached to loads prior to becoming lifted to prevent it swinging or if it requires guidance when being lowered onto a specific location. [Engineering]
- Workers giving directions to excavator operators, when they are lifting a load, must be trained and assessed as doggers. [Administration]
- Operators of excavators, which are used in crane mode, must be trained and assessed to demonstrate their competency in that role. [Administration]
- Operators of excavators in crane mode should not also be the supervisor at the same time. [Administration]

# Contact us

## Mineral Mines and Quarries Inspectorate

General enquiries:

- [Contact your regional inspectorate staff](#)

Report emergencies, incidents or illness:

- Townsville: (07) 4447 9282
- Mt Isa: (07) 4745 4117
- Brisbane: (07) 3330 4273

