Incident periodical

High Potential Incidents summary

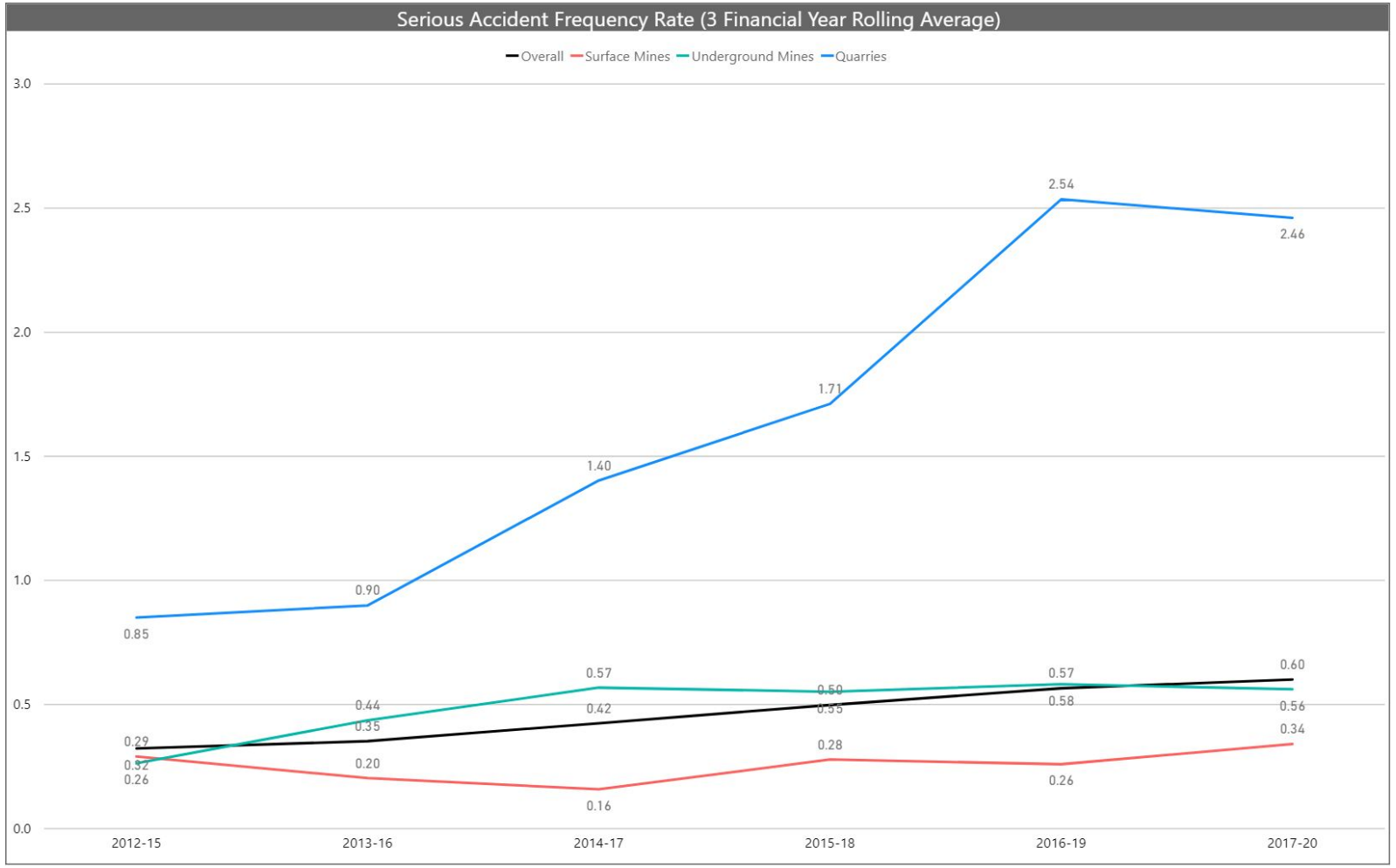
Queensland Mineral Mines & Quarries Inspectorate

September 2020

Mineral Mines & Quarries Inspectorate

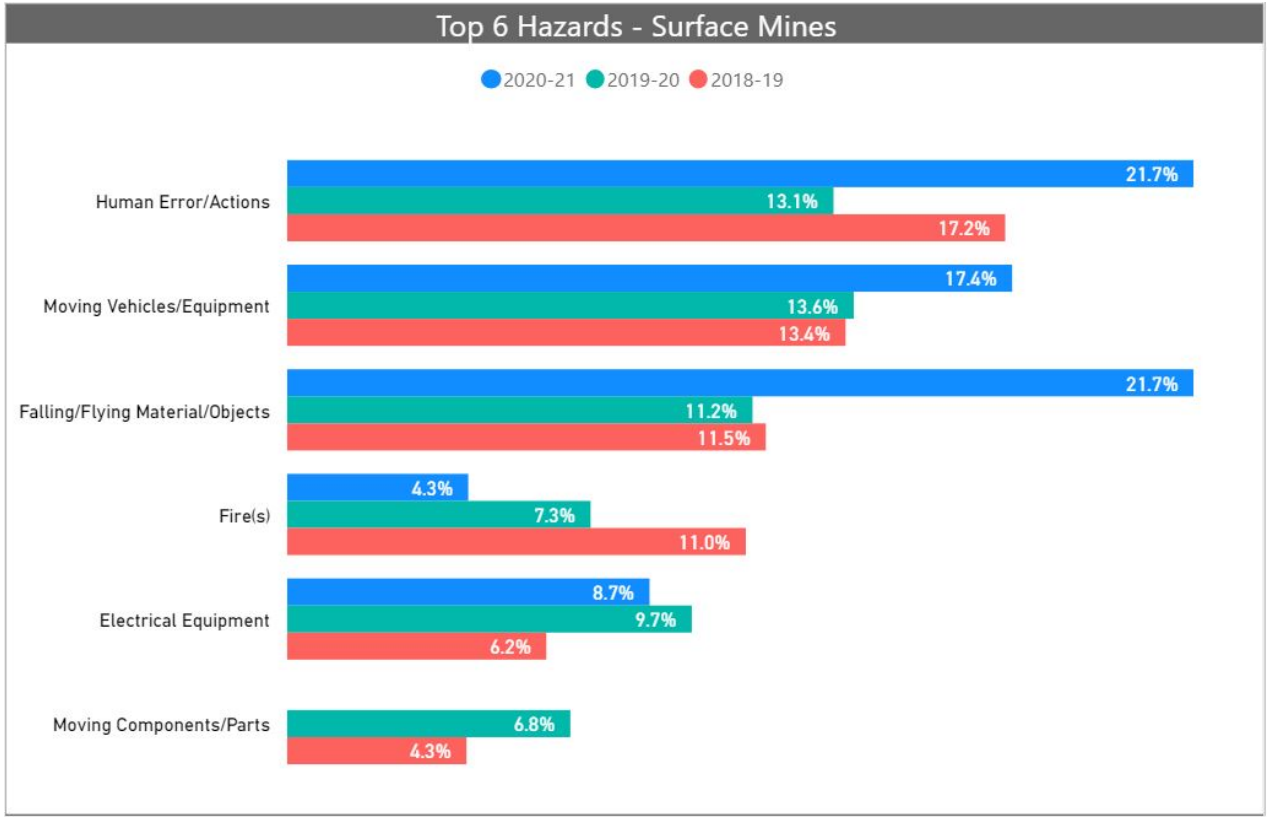
Resources Safety & Health
Queensland

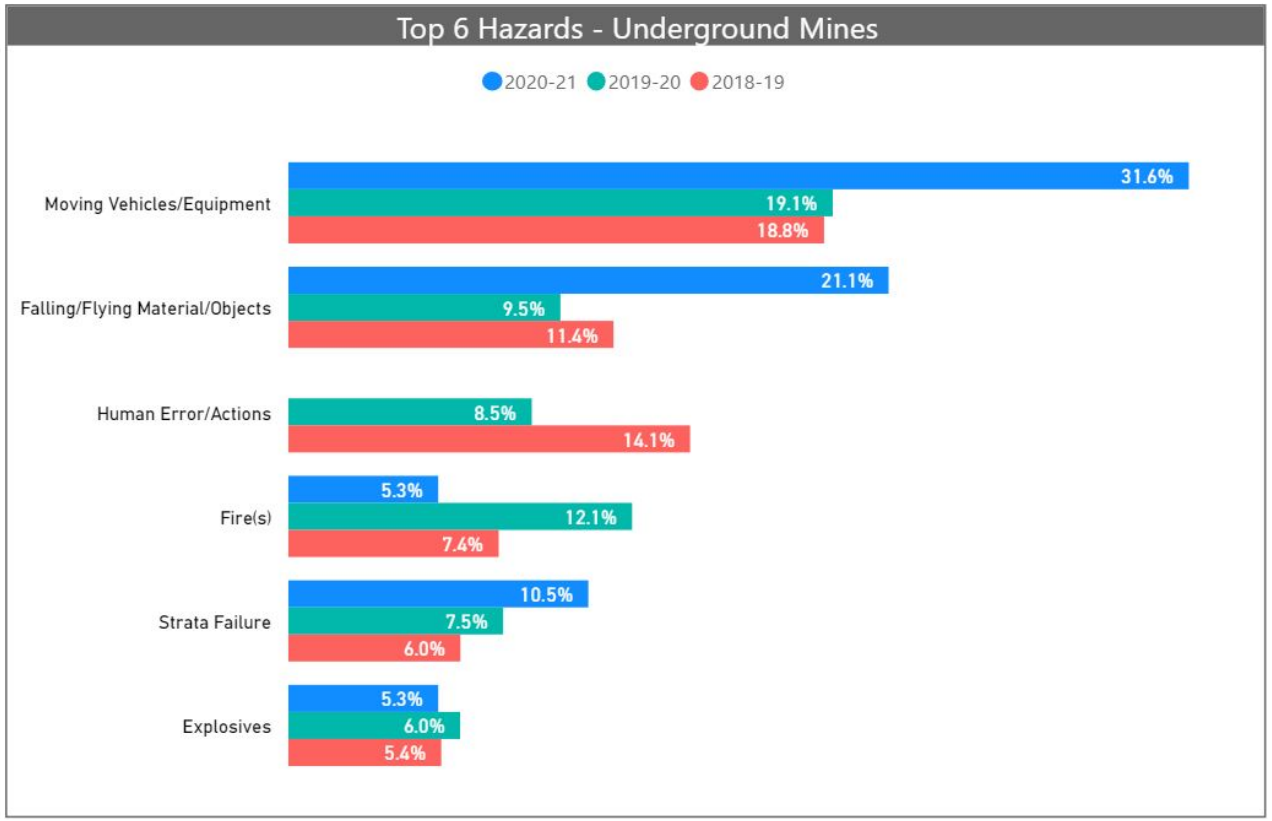
Serious Injury Frequency Rate by industry



Top 6 hazards

These graphs compare annual data of the top 6 hazards involving Serious Injuries by mine type.





Top 6 hazards

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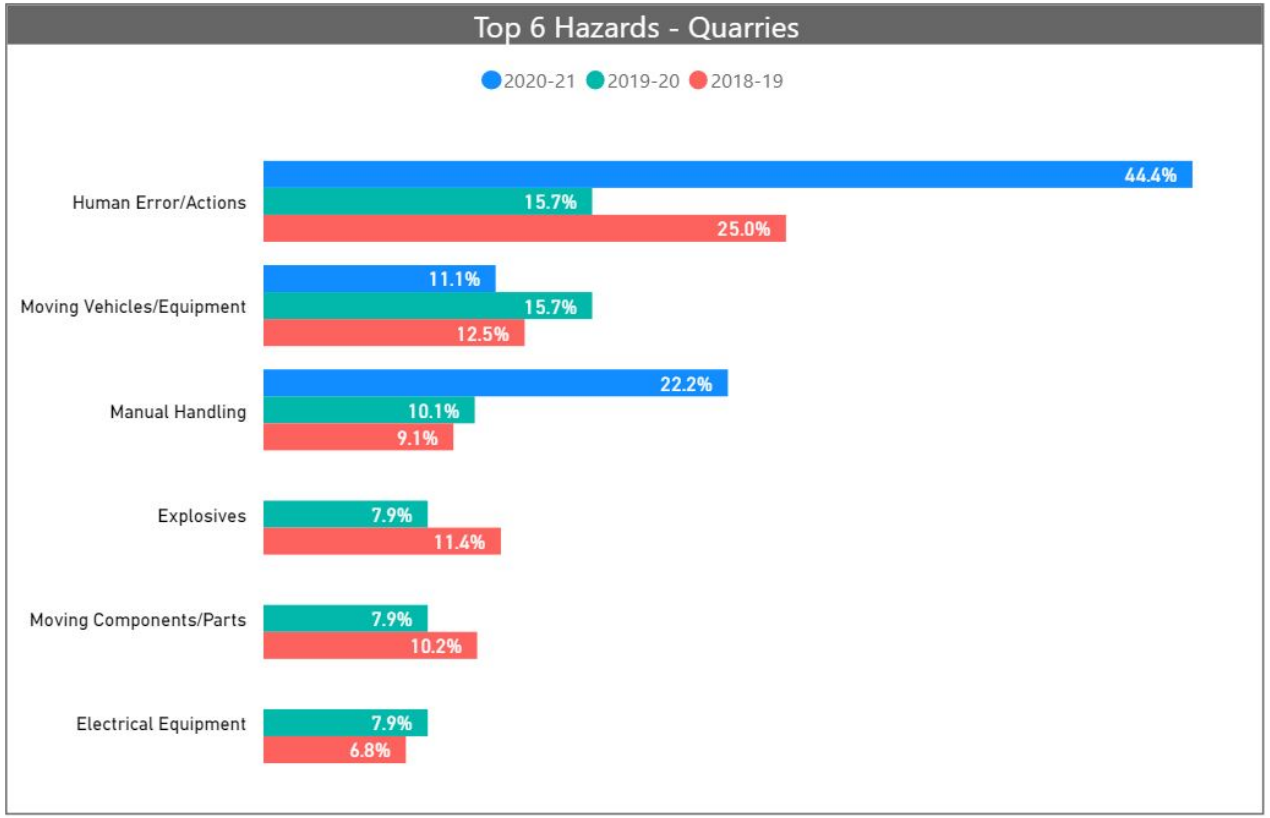
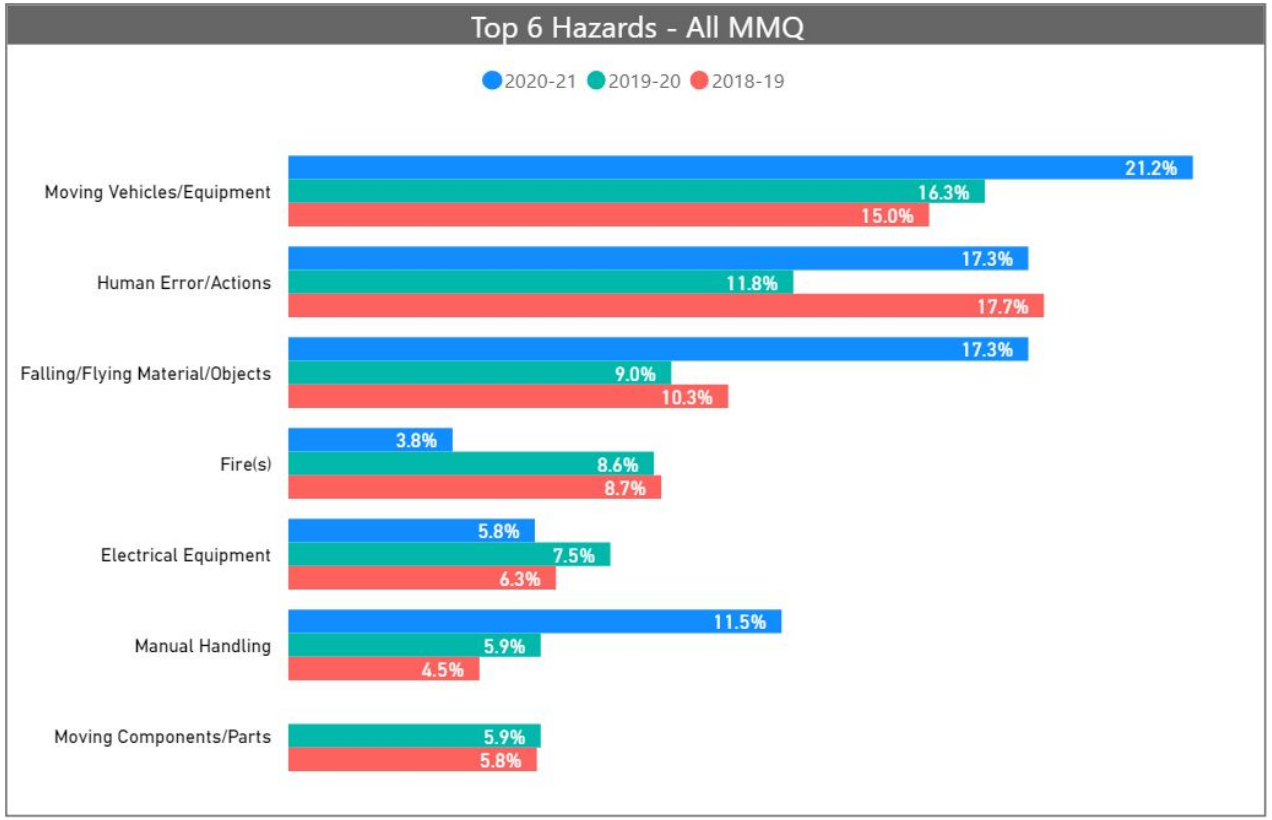




Excavator contacts overhead power line.

On 7 September 2020, an Excavator was travelling towards the exploration core shed area when it struck and severed the11 kV overhead power line (OHL) The operator knew to stay in the cab which had been part of his training, The electrician also advised the operator to stay in the cab until Ergon confirmed that the power was isolated.

The operator was not injured.

Conductor entangled around excavator boom

Excavator contacts overhead power line.

Causes

The excavator was being trammed with the boom in a raised position resulting in a maximum height of approximately 8.5 metres from ground level.

The clearance under the OHL was 6.5 metres. Even if the excavator was being trammed in its travel position the height would be approximately 4.5 metres and would still encroach the exclusion zone of the OHL.

The excavator operator was familiar with the travel route and knew the power line was there. On this occasion the operator simply forgot about it.

The supervisor knew that the excavator operator was familiar with the area and so he went ahead to prepare the area for the intended task.

No warning signs were in place on the approach to the OHL.

Excavator contacts overhead power line.

Recommendations

Redesign travel ways or restrict travel to ensure alternate travel route is taken so that mobile plant does not have to travel under the OHL. [Elimination]

Preventing mobile plant from travelling under the OHL by bunding it off along its entire length as the mine have now done. [Separation]

Use the recently issued Safety Bulletin # 188 Mobile Plant Contacting Energised Overhead Powerlines to assist with the identification of the hazards associated with your OHLs and implementing the most effective preventative and mitigating controls. The link is https://www.dnrme.qld.gov.au/business/mining/safety-and-health/alerts-and-bulletins/mines-safety/mobile-plant-contacting-energised-overhead-powerlines

A process to monitor control effectiveness to prevent inadvertent contact with OHLs must be implemented that includes how the monitoring is undertaken and who is responsible. [Administration]

Create an emergency response plan specifically for plant contacting an OHL [Administration]

Dozer roll over

On 15 September 2020, a dozer operator was creating a track on a the ridge of a sand dune when the dozer slid sideways and veered to the right hand side. The dozer was still stable at this point and only rolled over when the operator tried to reverse back up onto the ridge. The operator was wearing the seat belt and was not injured.

Dozer roll over

Ridge of sand dune

The technique for creating a track is to staddle the ridge and keep the blade height so that sufficient material comes around both ends of the blade to form a window on either side. This will ensure that there is a sound bed for the tracks to run on.

Dozer roll over

Causes.

The blade was raised too high, consequently no windrow was being created on the right hand side and there was no material to support the track on this side.

After the dozer slid sideways and was stable at that point, the operator did not use the radio to ask for advice from their supervisor.

To rectify the situation the dozer should have been driven forwards down the slope.

The operator had not created a track by straddling a sand dune ridge before.

There was a reliance on workers to speak up if an allocated task is beyond their capability

The Job Safety Analysis did not document why the height of the blade was critical

Dozer rollover

Recommendations

The workers carrying out the job safety analysis should include an operator familiar with the task. [Administration]

Effective controls must be in place to prevent uncontrolled movements associated with operating mobile plant on steep gradients. [Administration]

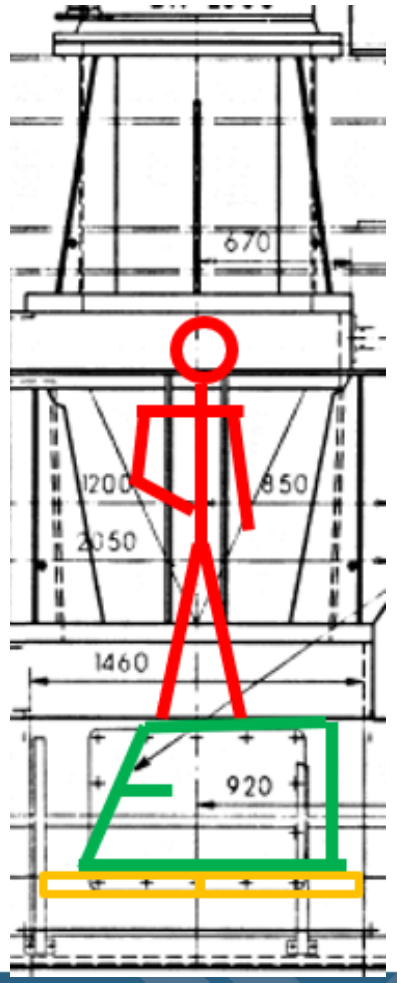
Operator training should be reviewed to ensure they understand that when faced with a difficult situation they should contact their supervisors for advice. [Administration]

The supervisor should check and record that operators are competent and confident they can implement the agreed controls. [Administration]

Worker struck by product falling inside filter plant discharge chamber

On 27 September 2020, a worker entered the bottom of a filter plant discharge chamber and was hosing down a build up of material. The worker was standing on a step up platform when product from the top of the chamber fell on him causing him to fall off the platform. The height of the platform was <1 metre.

The worker sustained a compound fracture to their right leg.



Cross sectional illustration of discharge chamber.

Worker struck by product falling inside filter plant discharge chamber

Causes

Every scheduled 24 hours the hung up product was cleaned off the inside of the chamber from the top prior to entering the chamber at the bottom. However It had become accepted practice not clean down the chamber from the top prior to entering the chamber at the bottom during breakdowns because it was assumed that the product build up would be minimal.

The Standard Work Instruction (SWI) related to cleaning the chamber from the top before entering the chamber at the bottom and was not followed. The SWI required a SLAM (Stop, Look, Analyze, and Manage) to be completed but was not found after the incident.

Inside the chamber after the incident

Worker struck by product falling inside filter plant discharge chamber

Recommendations

As proposed by the mine, eliminate the hazard by installing: [Elimination]

- Non-stick lining at the top
- An automated system to clean the chamber which will minimise the occasions that workers have to enter it.

- Review all routine tasks or practices that have evolved over time and become accepted without being risk assessed. [Administration]
- Explain to workers why it is necessary to use on-the-job risk assessment tools even when carrying out repetitive tasks. Consider doing risk assessment with workers not familiar with the task to identify accepted risks. [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