

# June 2020 Incident periodical

Recent High Potential Incidents  
Learnings and Recommendations  
Queensland Coal Mines Inspectorate

Coal Inspectorate



**Resources Safety & Health**  
Queensland

# Incident - Light vehicle collides with Conveyor

## Details

1. A light vehicle with four occupants collided with a conveyor structure.
2. There were no injuries, however significant damage occurred to the vehicle and conveyor system.



# Recommendations

## Site Senior Executives

- Ensure mine specification for the design and construction of mine roads has been mapped against the requirements Recognised Standard #19.

## The senior position responsible for mine roads within the management structure

- Ensure all mine roads, including the surface area of underground mines, are audited for compliance to the mine's specification for the design and construction of mine roads.

## Coal mine workers

- Ensure they abide with the mine's traffic rules and fitness for work provisions.
- Be acutely aware of the dangers associated with driver distraction

# Incident - Electrical Safety Circuit Bypassed

## Details

1. An Electrical Worker located a bypass in one of the safety circuits on an underground conveyor belt starter.
2. This bypass defeated the function of the field emergency stops and internal door limit switches.
3. Early investigations indicate that this bypass may have been inadvertently left on during commissioning.

# Recommendations

## Site Senior Executives

- Ensure the mine's safety and health management system provides for records to be kept of any modifications of electrical control systems.
- **Electrical Engineering Manager**
  - Ensure each electrical control system operates safely under all operating conditions.
- **Coal mine workers (who carry out electrical work)**
  - Ensure that these activities are carried out in a manner that does not result in an unacceptable risk to others.

# Incident - Light vehicle collides with road train

## Details

- A light vehicle collided with the rear trailer on a dual powered road train pulling 5 trailers.
- The LV driver claimed to have been changing mine radio channels when he looked up and was approaching the rear of the road train at speed.
- The LV driver took evasive action to prevent a collision with the rear of the truck, but over-corrected the steering which then caused the light vehicle to swerve into the first and second tyre of the 5th trailer.
- The LV was travelling at approximately 60 kph and the road train was travelling at 18 kph going uphill.



# Recommendations:

## Site senior executives

- Ensure their safety and health management system and the actual mine roads have been mapped against the requirements of Recognised Standard #19 “Design & Construction of Mine Roads”.

## Supervisors and Open Cut Examiners

- Ensure their mine’s procedures for operating mobile equipment are followed and complied with to achieve an acceptable level of risk.

## Coal mine workers

- Must be acutely aware of the dangers associated with driver distraction, and in cases like this pull off the road and stop before attempting to change mine radio channels.

# Incident – Metal Shard Injury

## Details –

- A coal mine worker (CMW) replacing GET on an excavator bucket, when the tooth being fitted became jammed in wrong position to allow fitment of the retaining lock. The piece of GET was required to be relocated back off the bucket adaptor to expose the locating hole in which the retaining lock was to be fitted.
- The CMW chose to use a hard face hammer to try and knock the GET back off the adapter when a piece of hardened shard was chipped off the tooth projecting it in to the CMW's L/H forearm resulting in a deep laceration. The CMW was then transported to a hospital for further treatment





# Recommendations:

## Site senior executives

- Ensure their procedures / safe work instructions for conducting this type of work state ways of controlling all potential hazards associated with the task so an acceptable level of risk is achieved

## Supervisors

- Ensure adequate resources are provided (in this case soft face hammers).

## Coal mine workers

- Ensure check for potential hazards prior to commencing a task.

# Incident – Loss of load

## Details –

- An engine mounted on a stand has fallen from a truck onto a haul road during transit.
- The engine and stand weighed approximately 6 tonne, and was secured on the truck by two ratchet straps. There was no dunnage or non-slip matting present between the cradle and the truck bed.
- Upon moving off from a stop sign on the ascent from the pit, the cradle and motor moved towards the rear of the truck bed snapping the restraints.
- No persons were in the vicinity at the time.



# Recommendations:

## Site senior executives

- Ensure the relevant coal mine workers are trained in the appropriate methods to secure loads being transported (Load restraint limits and ratings).

## Supervisors

- Ensure that persons under their supervision are trained, competent, and understand the risk and controls required to undertake the task they have been allocated

## Coal mine workers

- Ensure appropriate measures are in place to prevent any uncontrolled movement of loads being transported.

# July 2020 Incident periodical

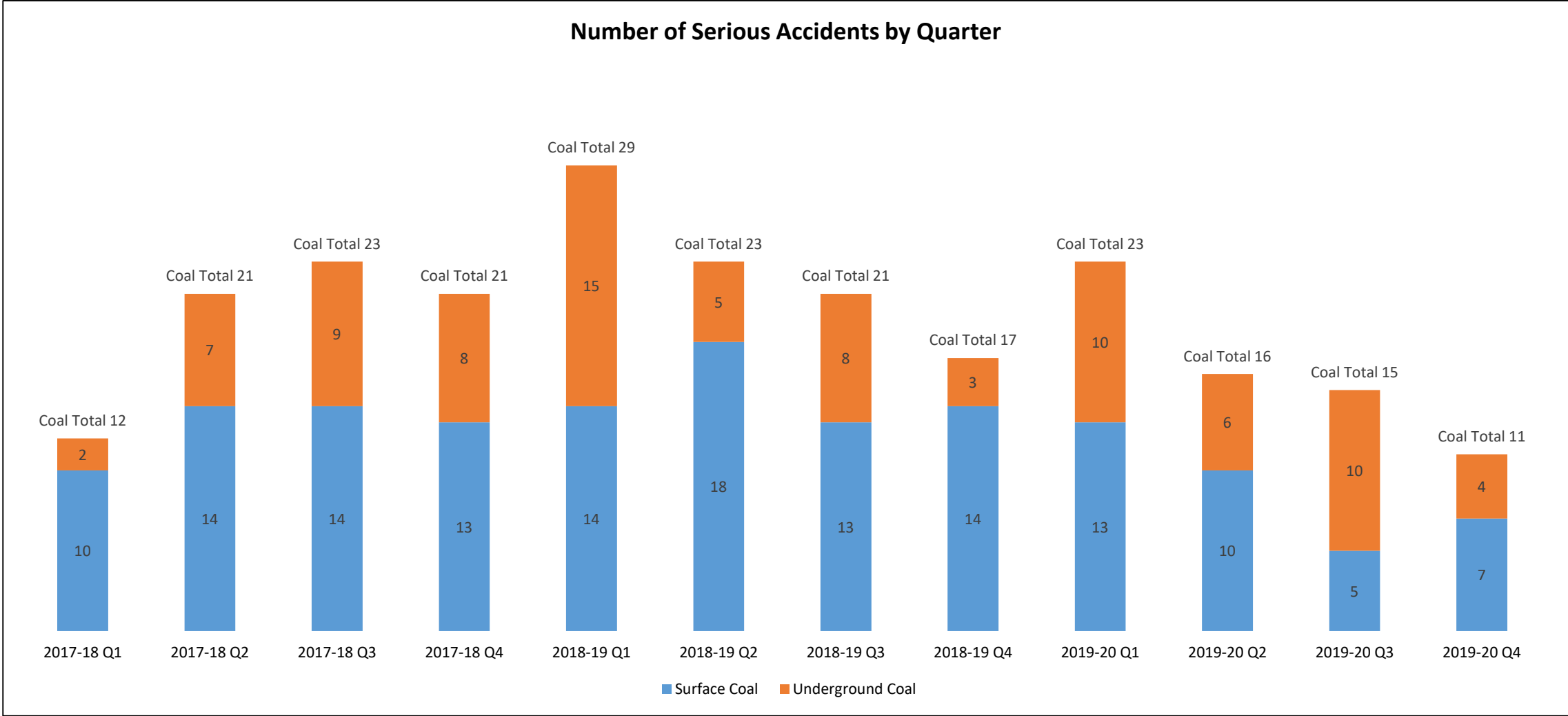
Quarterly Coal Industry Serious Injury and HPI Performance for FY'20  
Recent High Potential Incidents  
Learnings and Recommendations  
Queensland Coal Mines Inspectorate

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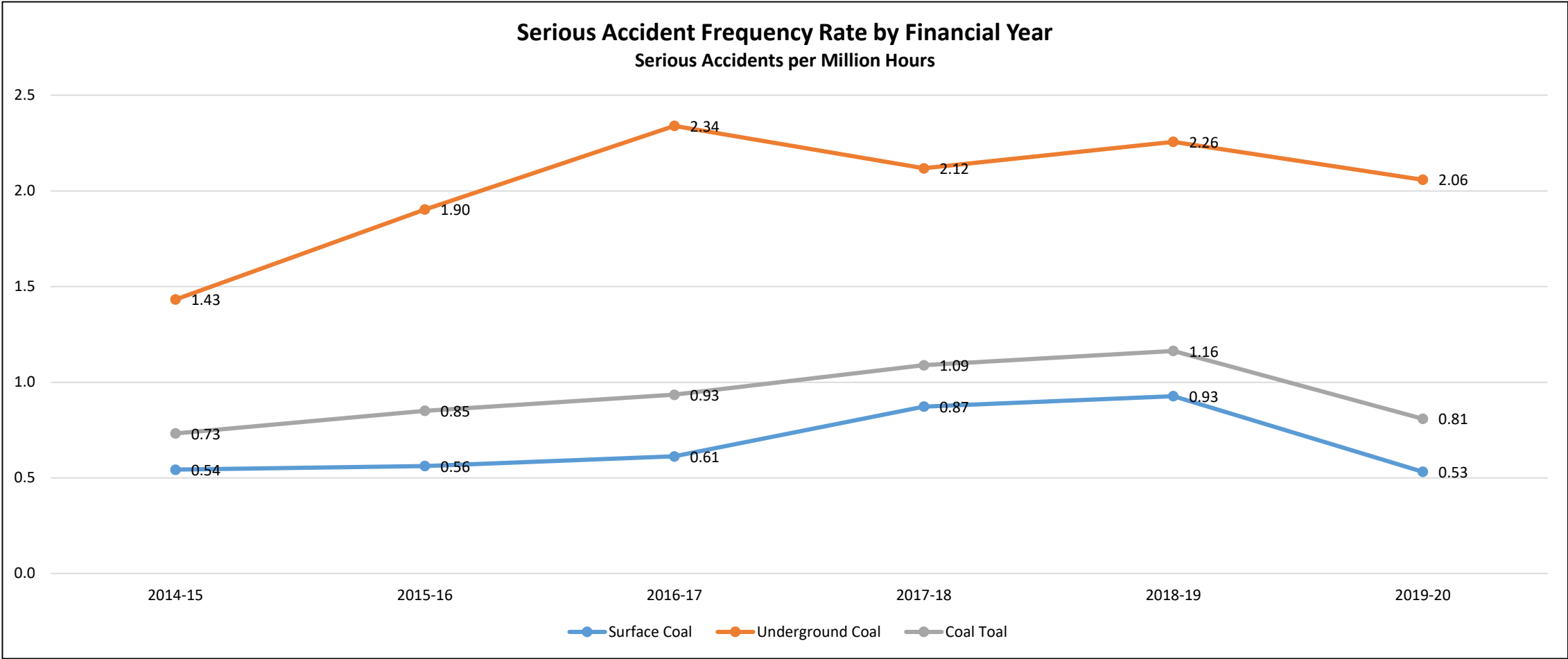


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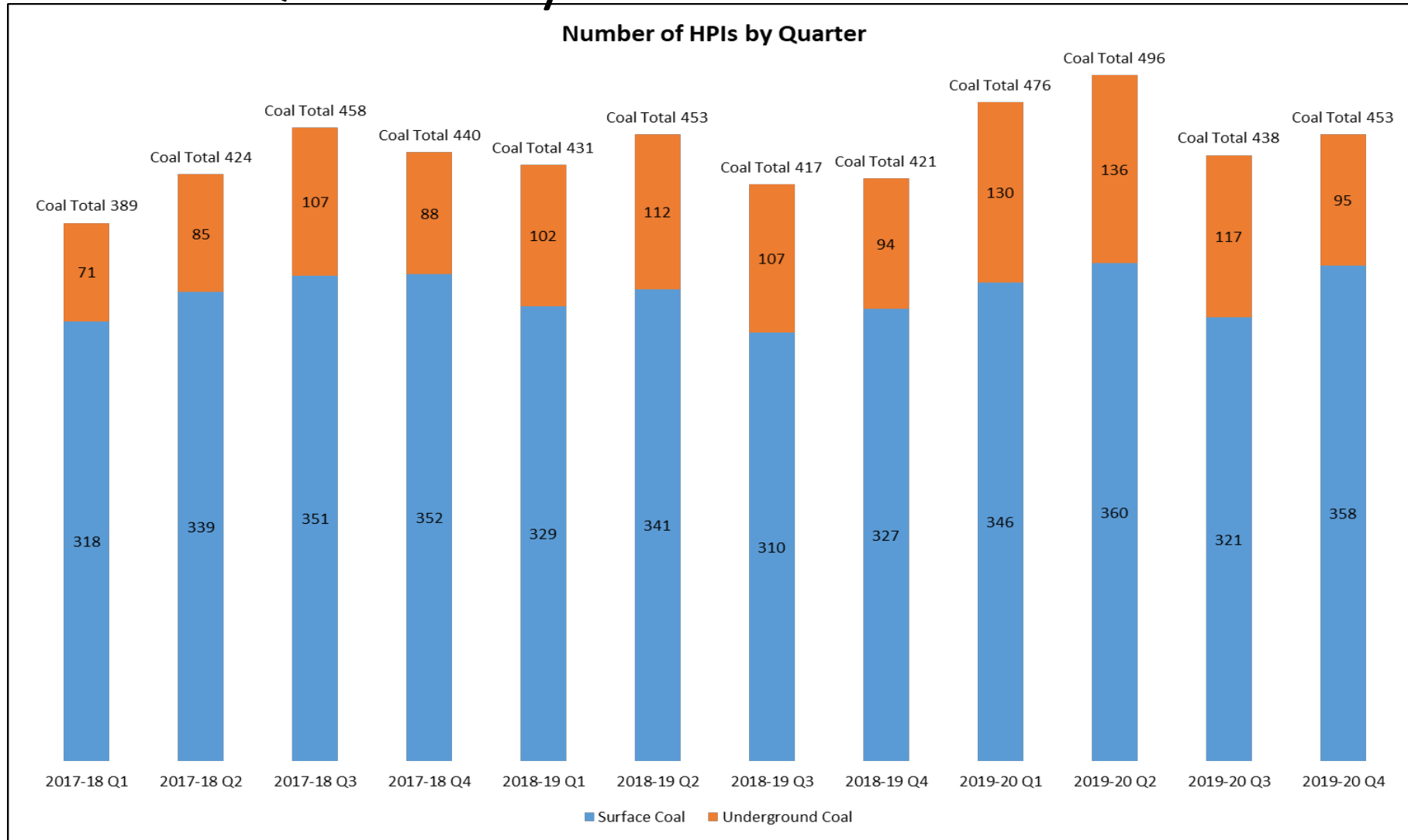
# Serious Accidents – Quarterly Performance



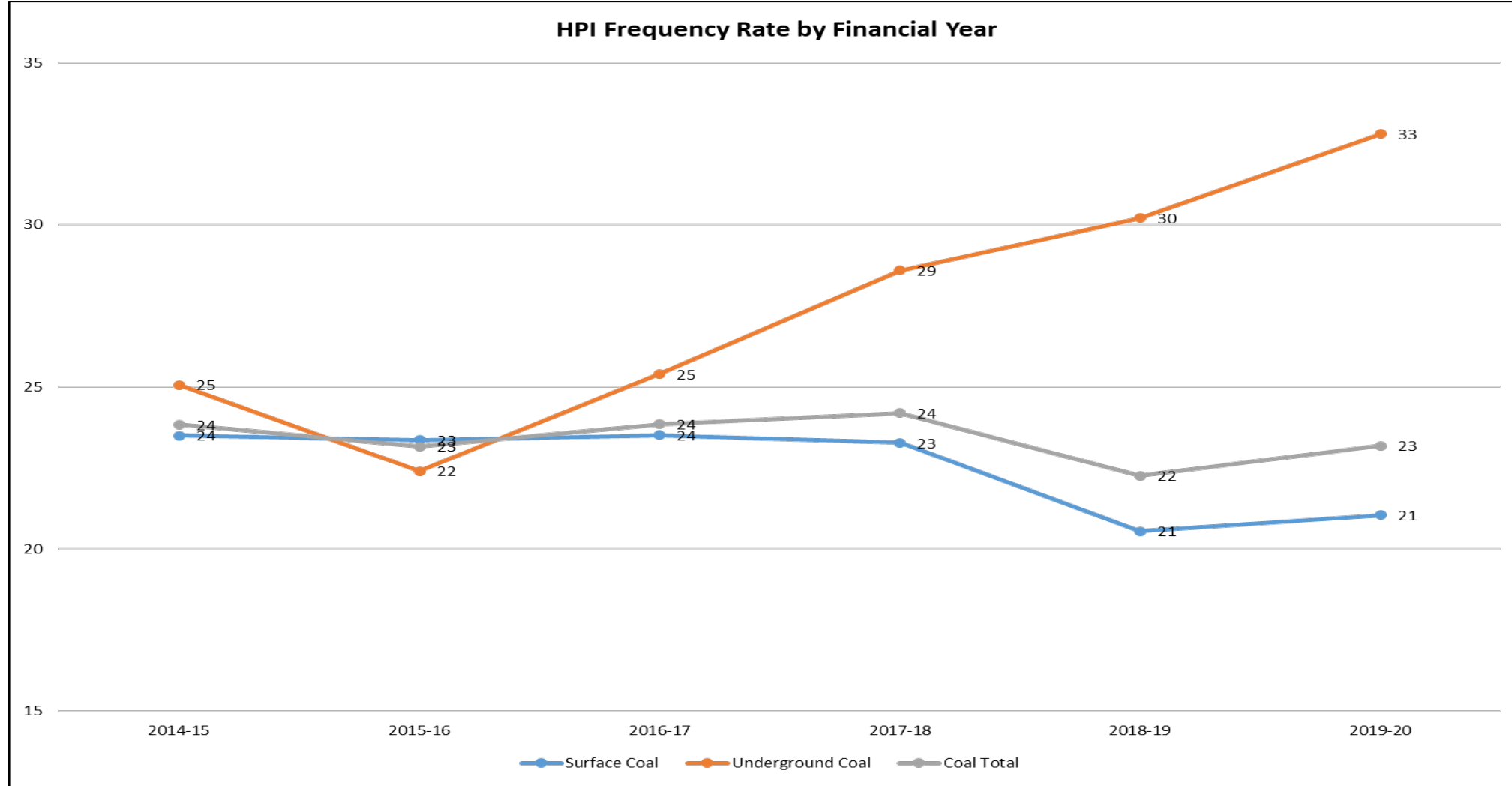
# Serious Injury Frequency Rate - Annual



# HPIs– Quarterly Performance

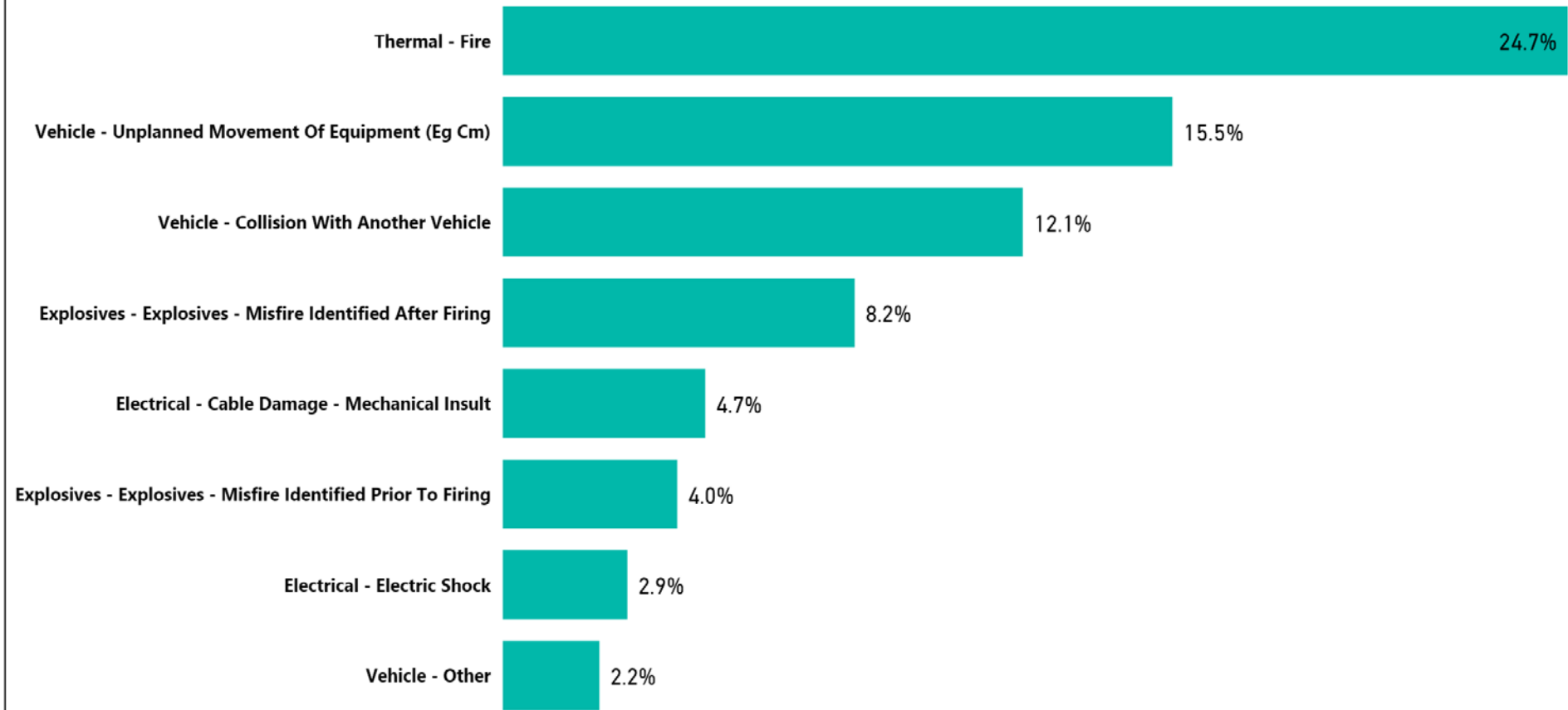


# High Potential Incident Frequency Rate - Annual

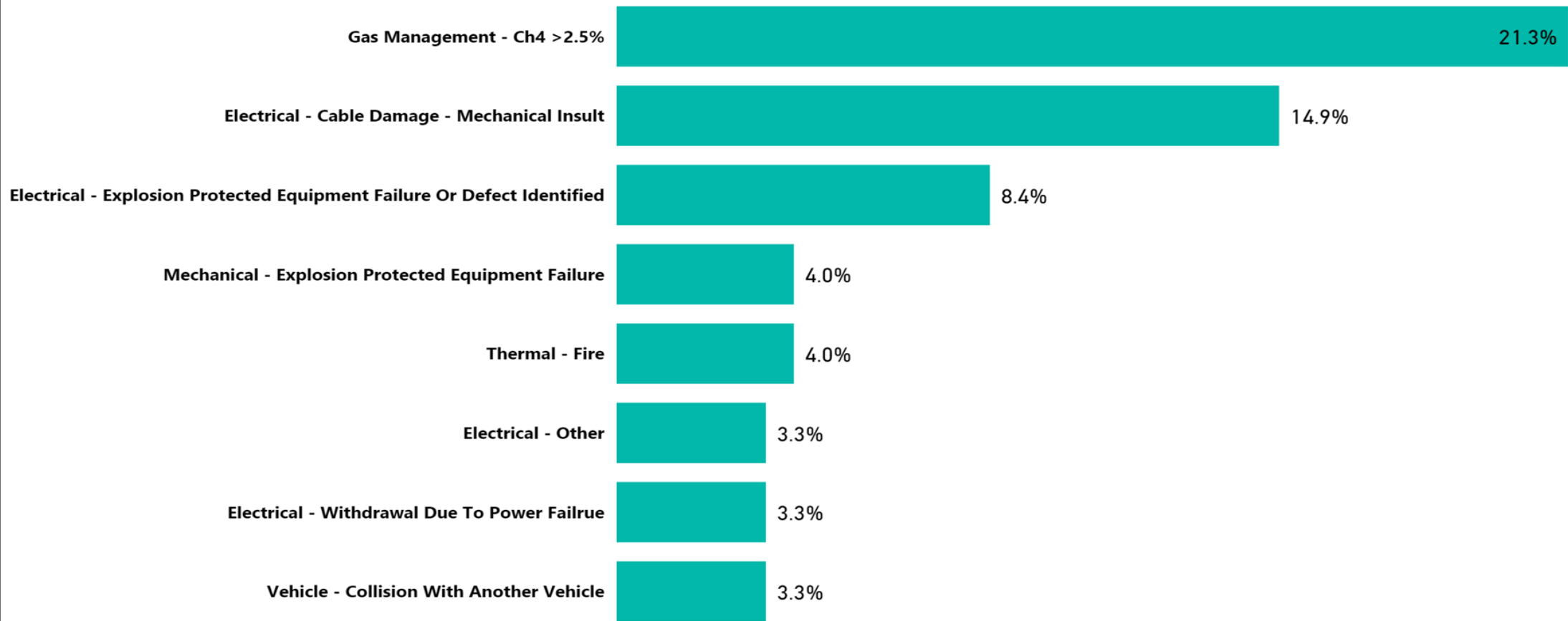




### Top 8 1A Hazard Types - Surface Coal



## Top 8 1A Hazard Types - UG Coal



# Incident – Ignition of Gas – Surface Mine

## Details

1. A pre-split blast was fired at the same time as a production blast
2. During the post blast inspection, flame was observed along the pre-split line
3. Gas contained in the strata had been ignited by the blast.
4. The working area was quarantined and a plan to extinguish the flames prepared, risk assessed and implemented.



# Recommendations

## Site Senior Executives

- Ensure the management of gas is considered in all aspects of the operation and appropriate management plans are developed to control the risk

## The senior position responsible for drilling and blasting within the management structure

- Identify the hazard or the presence of flammable gas in the mine so as appropriate risk mitigation strategies are implemented.
- Consider undertaking gas content and emission monitoring during exploration and blasthole drilling to identify the hazard prior to the loading design phase.

## Coal mine workers

- Gas monitoring equipment used by coal mine workers to be suitable to detect the presence of flammable gas, including the availability of equipment to take gas samples from below the collar level of the blastholes.

# Incident – Undetonated Primer

## Details

1. An undetonated primer was uncovered by a grader operator working on a pit bench 6 months after the blast.
2. The nonel signal tube had been pulled out of the detonator crimp, removing the firing signal.
3. Wet weather during the loading process may have affected the bulk explosive product and allowed hole slumping to occur.



# Recommendations

## Site Senior Executives

- Ensure the management misfires is considered in all aspects of the operation and appropriate management plans are developed to control the risk

## The senior position responsible for blasting within the management structure

- Ensure blast designs and blast scheduling include reviews of weather forecasts, prior to explosives loading activities taking place, and subsequent appropriate product selection
- Ensure video reviews of blasts are used for detecting anomalies in the blast.

## Coal mine workers

- Blastholes not expected to fire as per the design, such as known slumped holes, or electronic “no reads”, which the shotfirer has been unable to remediate prior to firing, should be considered a misfire hazard until the entire blast area has been excavated.

# Incident – Bund protection near water bodies

## Details

1. A coal mine worker had a near miss when operating a light vehicle next to a water body
2. The coal mine worker made an error while reversing the light vehicle, which led to an emergency recovery operation
3. The incident occurred during the hours of darkness.
4. Insufficient bunding contributed to the incident



# Recommendations

## Site Senior Executives

- Ensure mine specification for the design and construction of mine roads has been mapped against the requirements Recognised Standard #19 with special attention to access around bodies of water

## Supervisors and OCE's

- Familiarise yourself with the standards for bunding around water bodies and ensure work areas are safe for coal mine workers and that access to areas requiring to be brought up to standard is prevented.

## Coal mine workers

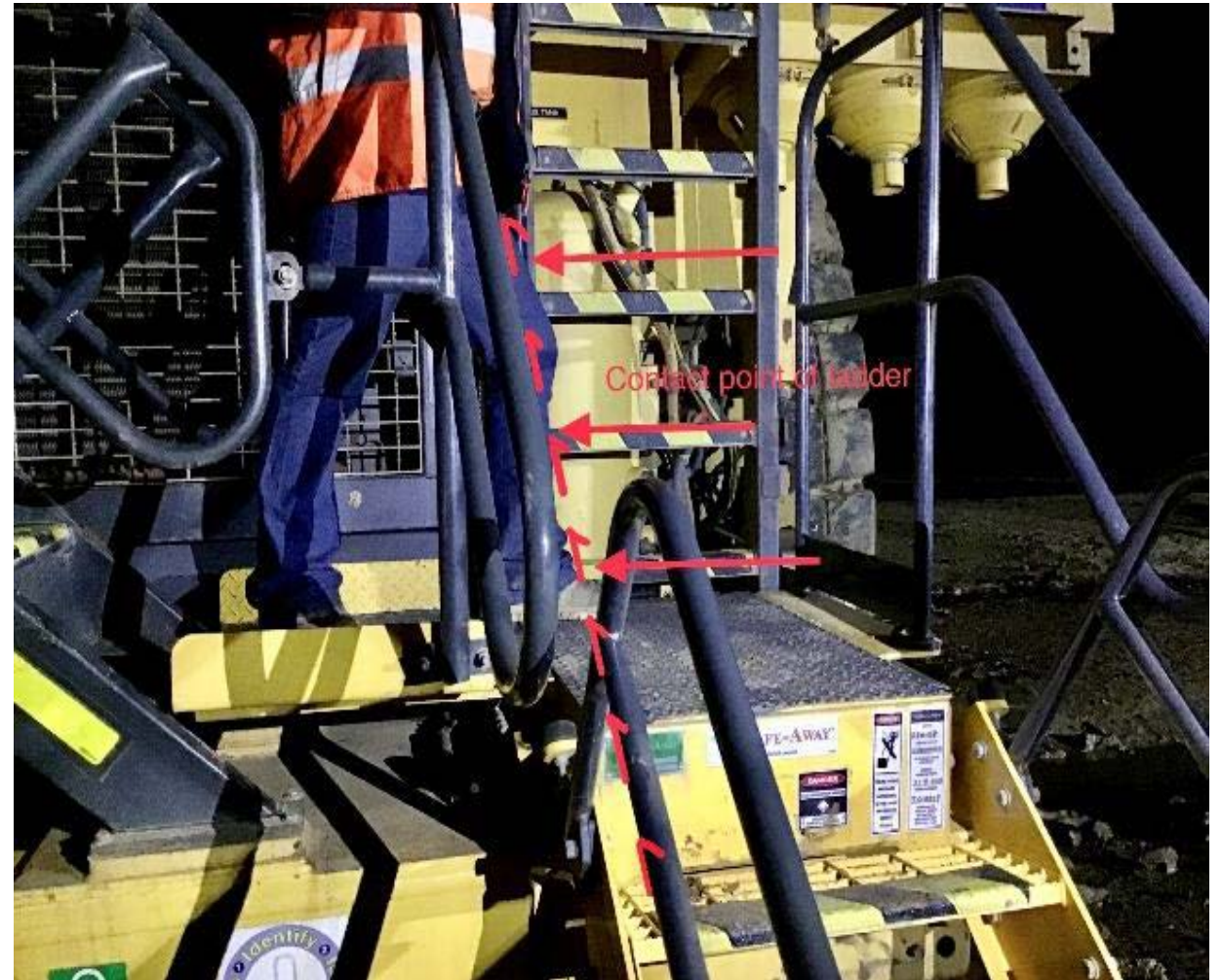
- Coal mine workers must inspect each work area for safety before commencing work and unless the work area is safe, not commence work .



# Incident – Mobile equipment access

## Details

1. A coal mine worker was struck by a moving stairway on a truck.
2. The worker has responded to an alarm that the stairs had failed to raise.
3. The worker placed one leg into the space when the stairs raised and struck the worker on the leg.



# Recommendations

## Site Senior Executives

- Consider the establishment of “No Go” zones, or restricting access where a retractable ladder has the potential to move into a space that a coal mine worker might occupy.

## The senior position responsible for maintenance of mobile equipment within the management structure

- Design of retractable ladders should be reviewed and modifications identified that ensure workers cannot be caught between stationary and moving parts, with reference to lessons from Safety Bulletin 185 being applied to all mining mobile equipment on site.

## Coal mine workers

- Ensure you are out of the “line of fire” at all times when accessing mobile equipment.

# Incident – Machine maintenance access

## Details

1. A coal mine worker received an injury to their head/neck when climbing out of the engine bay of a machine.
2. The worker hit their helmet on the fall protection scaffolding that had been installed on the walkway beside the engine bay.
3. The worker suffered some persistent adverse effects for a period following the knock to the head.



# Recommendations

## Site Senior Executives

- Ensure risk management processes are in place to identify potential risks and that required controls are in place associated with machine access for operation and maintenance activities

## Supervisors

- Ensure that egress routes are defined and discussed on shift in operational and maintenance activities

## Coal mine workers

- Ensure that you are not in the “line of fire” and have a clear egress route free of obstructions when undertaking both operational and maintenance activities.

# Incident – Longwall Operation – Potential fluid injection

## Details

1. A coal mine worker was removing a defective pressure gauge from a longwall shield leg.
2. When the worker removed the retaining staple, residual pressure in the hydraulic system ejected the gauge from the fitting with some force.
3. The gauge and some fluid struck the worker on the arm.
4. Medical examination identified the possibility fluid injection into the worker's arm had occurred.
5. Surgery was required on the worker's arm to ensure that fluid injection had not occurred.

# Recommendations

## Site Senior Executives

- Ensure that the risk management processes in use at the mine, identify the potential for residual risk and that effective controls are in place to manage this residual risk.

## Supervisors

- Supervisors must ensure that energy isolation has been effectively implemented and tested by coal mine workers before permitting work to commence on plant or equipment.

## Coal mine workers

- Coal mine workers must ensure that all energy sources are isolated effectively, and tested to ensure pressure is relieved before commencing work on plant or equipment.

# August 2020 Incident periodical

Recent High Potential Incidents  
Learnings and Recommendations  
Queensland Coal Mines Inspectorate

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# Incident – Scraper Rollover – Surface Mine

## Details

1. A loaded scraper has rolled onto its side when endeavouring to traverse from a lower level bench up onto a higher level bench.
2. The operator was not injured in this incident.





# Recommendations

## Site Senior Executives

- Ensure that mobile equipment must be only operated within the OEM's specifications, e.g. crossfall and gradient.

## The senior position responsible for overburden removal within the management structure

- Where required access ramps should be installed to allow for the safe movement of equipment.

## Coal mine workers

- Work area inspections checking for hazards must be conducted by supervisors, open cut examiners and coal mine workers prior to work commencing.

# Incident – Seal Hatch Doors Locking Mechanism – Underground

## Details

1. When testing the locking mechanism on a newly installed final Seal Hatch door as part of the seal up it was found that the locked mesh hatch door could be opened with minimal amount of force.



# Recommendations

## Site Senior Executives

- Consider alternative engineering locking mechanisms in ensuring the risk is as low as reasonably achievable.

## The senior position responsible for ventilation devices within the management structure

- As part of the commissioning process equipment should be tested to ensure it is fit for purpose.

## Coal mine workers

- Do not interfere with ventilation devices unless authorised .

# Incident – Highwall failure – Surface Mine

## Details

1. During pre-strip operations a section of highwall failed resulting in fallen material impacting the undercarriage and counterweight on an electric shovel.



# Recommendations

## Site Senior Executives

- Ensure sufficient data from exploration drilling is available that provides for accurate modelling of faults lines etc.

## The senior position responsible for mine design within the management structure

- Ensure sufficient geotechnical data for safe pit design and modelling is collected, analysed, interpreted and communicated.

## Open Cut Examiners and Supervisors

- Must carry out thorough inspections of pit walls looking for signs of potential strata failures.

## Coal mine workers

- Work within design parameters and report any unplanned movement of plant or material

# Incident – Cable damage on an overhead crane – Surface Mine

## Details

1. Whilst relocating an overhead crane in the house of a dragline an electrical cable has become caught on structure.
2. The cable was damaged causing a release of energy.
3. The earth leakage protection tripped as per design.
4. The cable had been incorrectly reinstalled after a recent service.



# Recommendations

The senior position responsible for electrical installations within the management structure

- A safety file should be maintained over the life cycle of all electrical equipment to provide traceable evidence relating to the safety of the equipment as well as providing a reference for consideration prior to carrying out any upgrades, modifications or changes to maintenance practices

## Supervisors and Coal Mine Workers

- Ensure mechanical protection is in place for exposed electrical cables.

# Incident – Uncontrolled Movement of Parked Equipment

## Details

1. A light vehicle was left unattended in a store yard, still running and in gear (drive) with the park brake on.
2. The vehicle moved slowly down the yard until it reached a storage area, where it bumped into some pallets and equipment before coming to a stop.





# Recommendations

## Supervisors

- Supervisors should regularly check and monitor that equipment is parked as per the site requirements contained in the safety and health management system.

## Coal Mine Workers

- Must comply with the site requirements contained in the mine safety and health management system requirements for parking equipment.

# Incident – Explosion Protection compromised – Underground

## Details

1. A daily vehicle pre-start inspection on an underground man carrier revealed that a Flameproof Exd 20mm bung was missing from the flameproof alternator.



# Recommendations

## Senior Site Executive

- Review work management systems related to electrical equipment for coal mines – introduction, inspection and maintenance for adequacy – Reference AS/NZS 2290.1 : 201

## The senior position responsible for maintenance within the management structure

- Ensure bungs and other devices are installed and maintained so as to prevent inadvertent failure of the bungs and/or devices.

## Coal Mine Workers

- Ensure all defects are recorded and reported during pre start inspections of equipment

# Incident – Serious Thumb Injury – Surface

## Details

1. A coal mine worker incurred serious injuries to his left thumb when a star picket driver slid off the top of the star picket as he was driving the picket in.
2. The thumb was squashed between the driver and the top of the star picket resulting in fractures and a laceration that required remedial surgery.



# Recommendations

## Coal Mine Workers

- All tasks must be assessed for potential hazards / risks before being commenced.
- This incident is pertinent to safety at home as well as work. A simple type of task that many of us perform at home with the same potential risk present.

# September 2020 Incident periodical

Industry Performance 1Q FY'21  
Recent High Potential Incidents  
Learnings and Recommendations  
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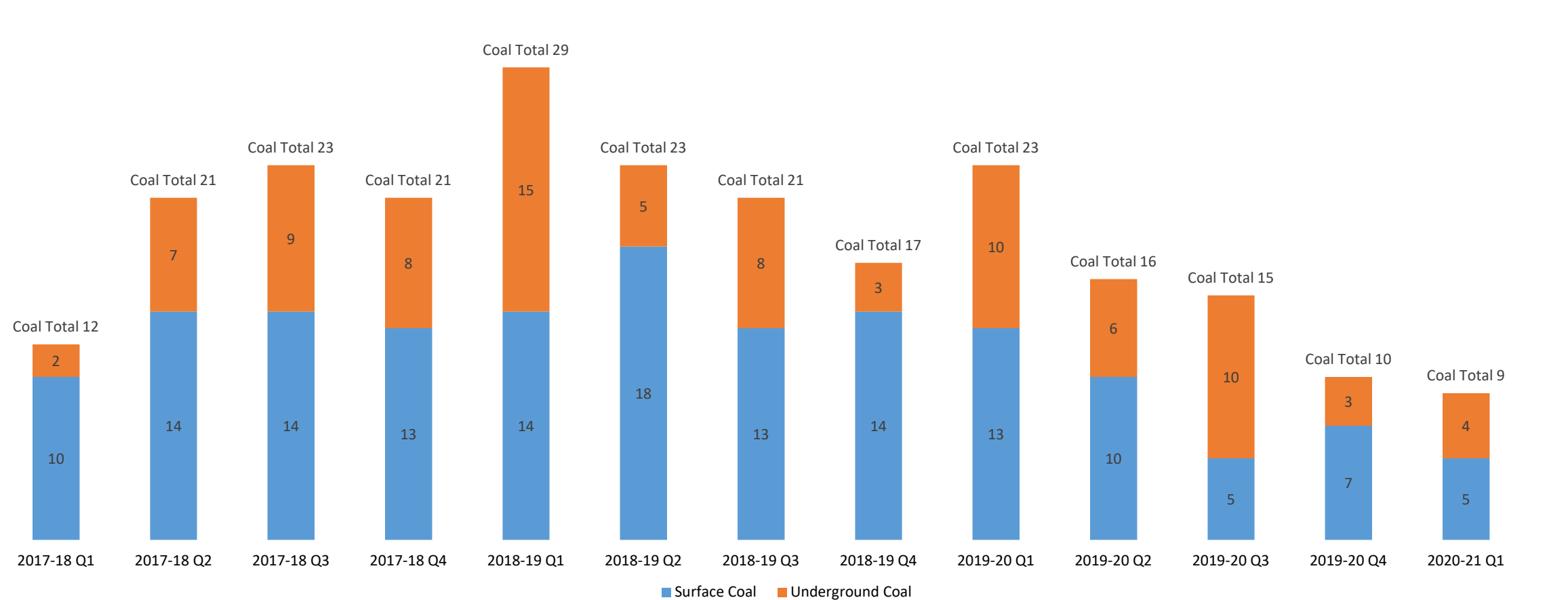
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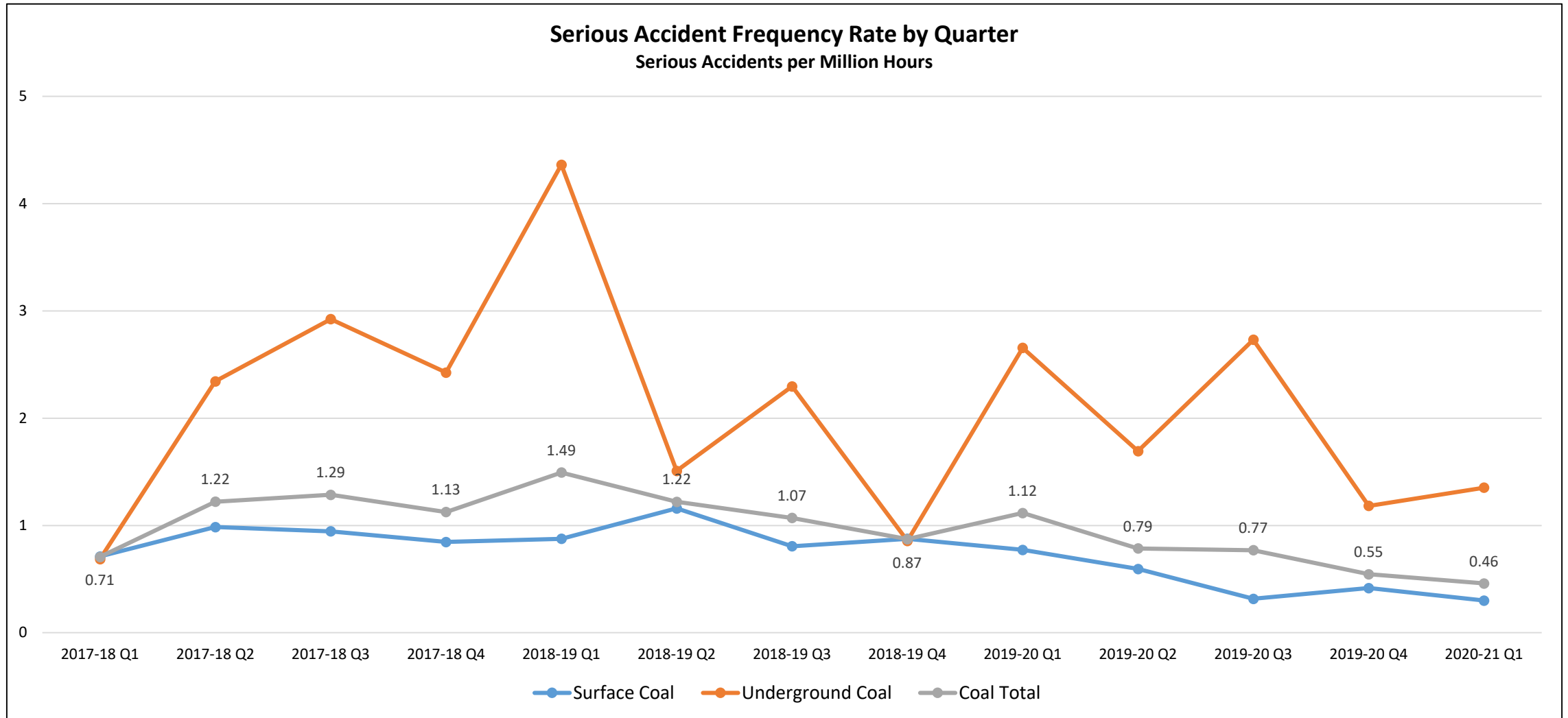
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# Coal Serious Accidents – 2017 to September 2020

## Number of Serious Accidents by Quarter

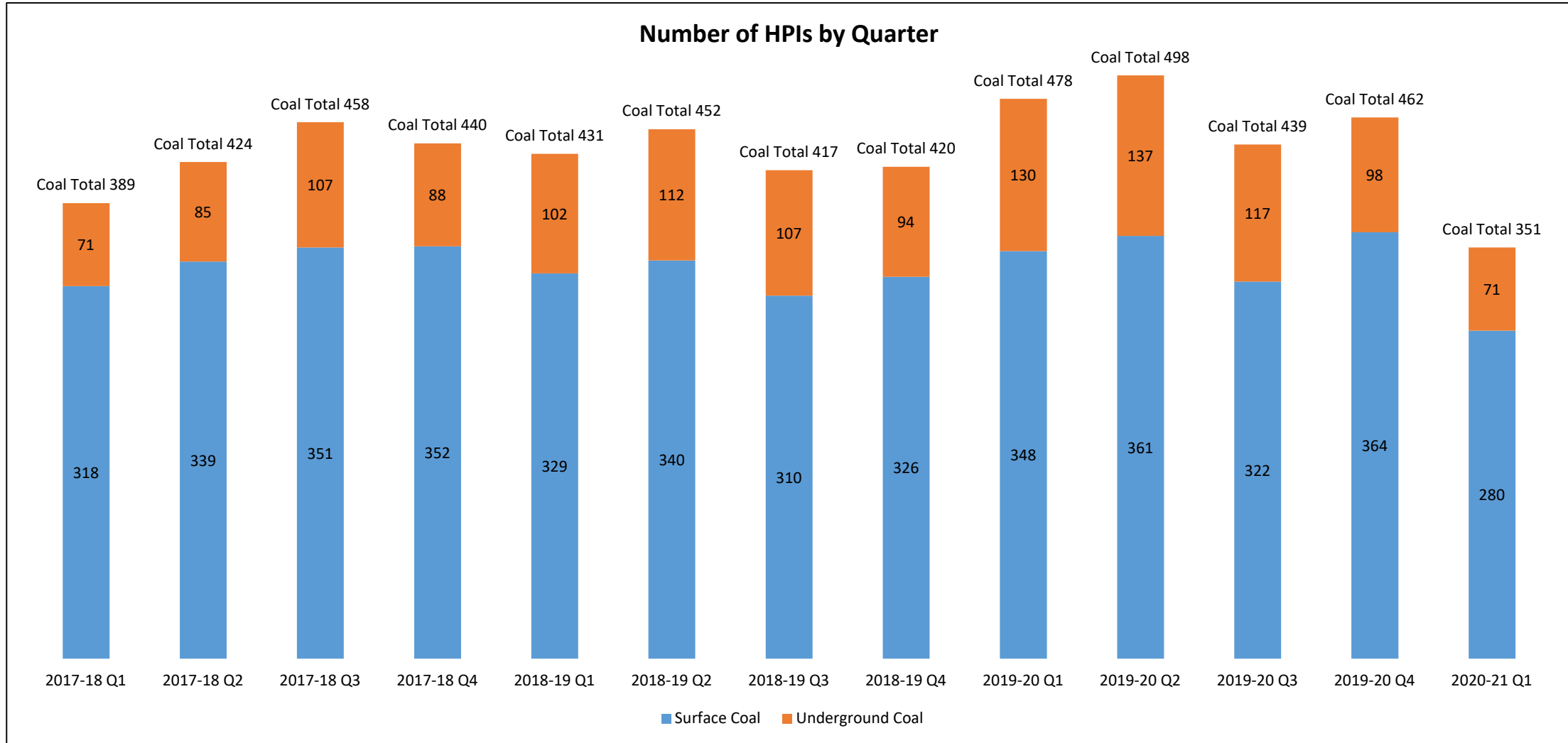


# Coal Serious Accident Frequency Rate – 2017 to September 2020

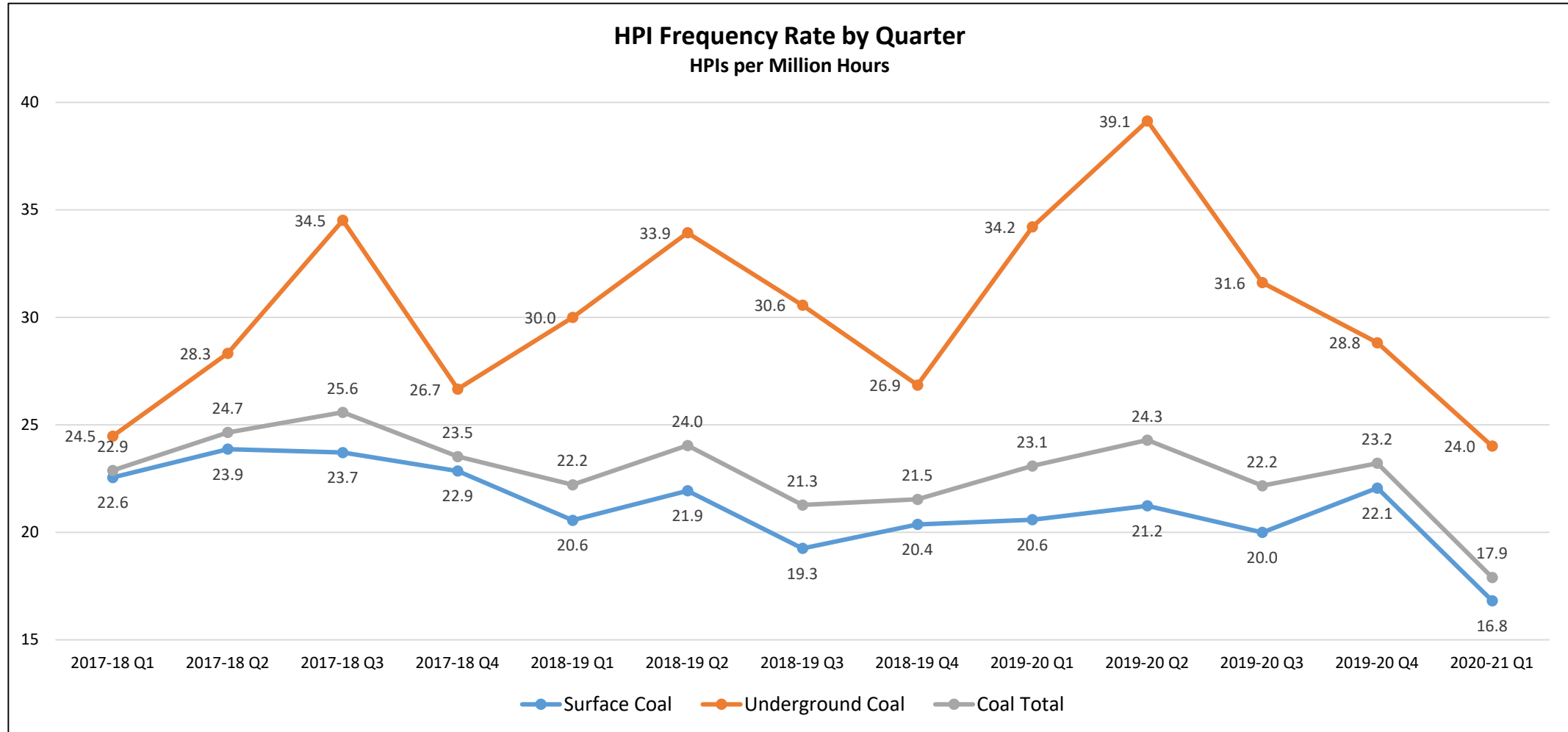




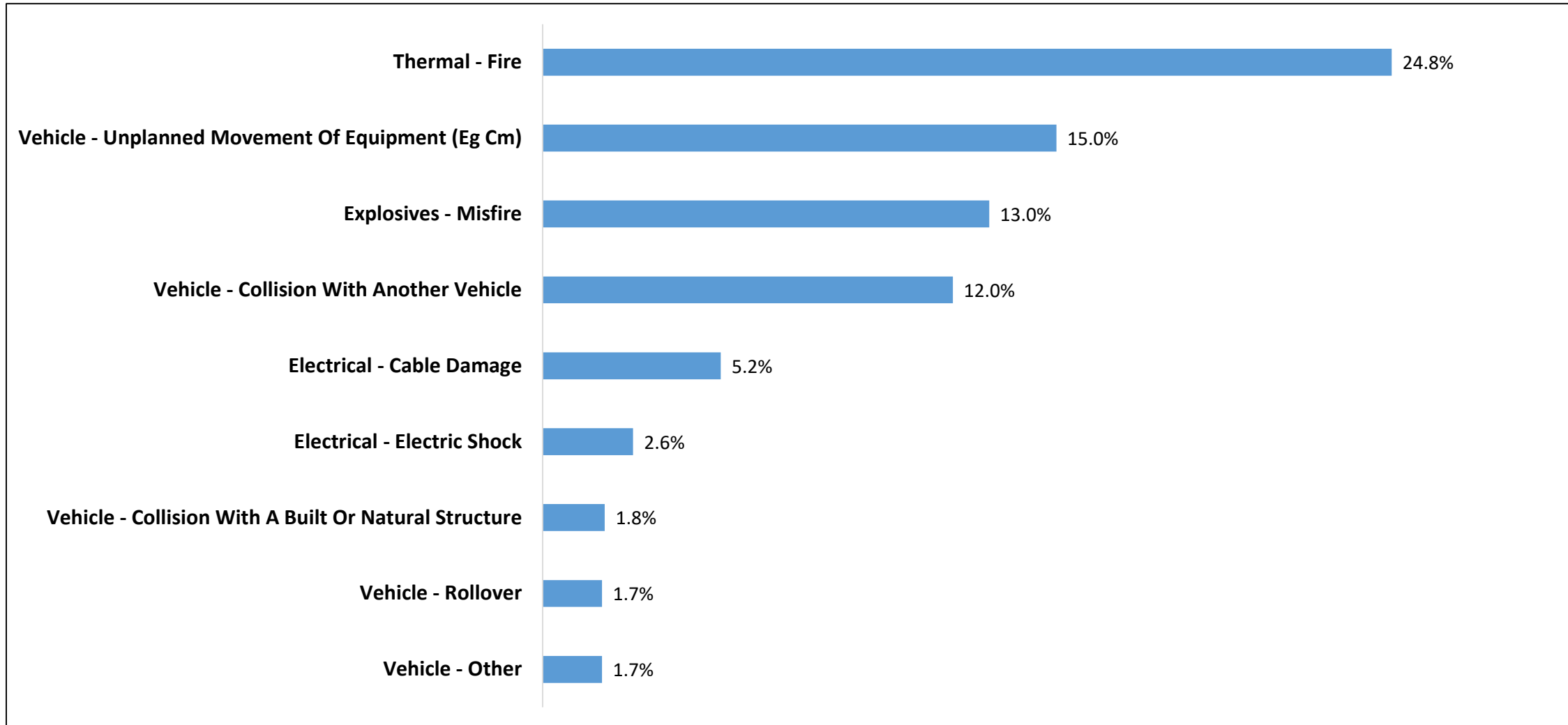
# HPIs - 2017 to September 2020



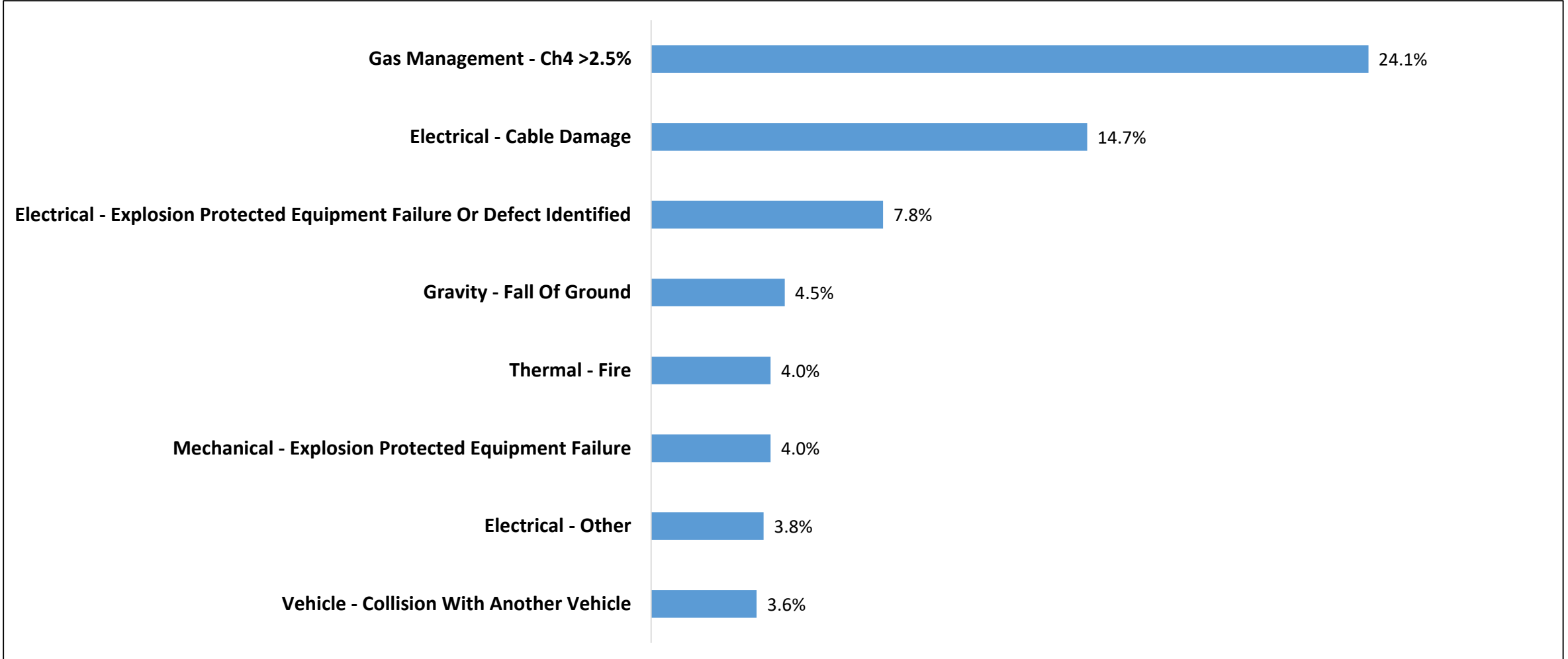
# HPIFR - 2017 to September 2020



# Top 8 HPI Hazard Types – Surface Coal (Oct'19 to Sept'20)



# Top 8 HPI Hazard Types – UG Coal (Oct'19 to Sept'20)



# 1. Incident – Collision – Surface Mine

1. A service truck entered a drill pad to service two drills.
2. Positive communications were confirmed with the first drill operator and the service was completed.
3. Positive communications were NOT confirmed with the second drill operator.
4. The CMW stopped the service truck behind the second drill.
5. The drill was trammed into the truck and turned the truck on its side.



# Recommendations

## Site Senior Executives

- Ensure that the procedures controlling mobile equipment interaction at the mine are effective and all coal mine workers are competent in their use.

## The senior position responsible for field servicing within the management structure

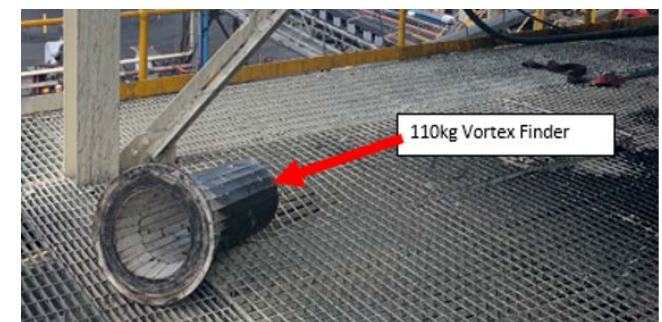
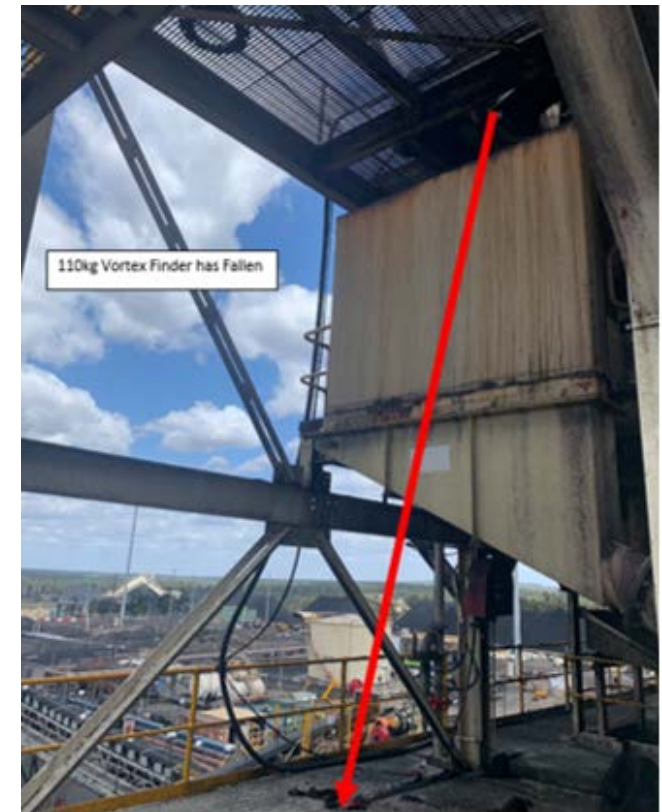
- Ensure coal mine workers who conduct field servicing are competent to RIIAM212E – Service mine plant or equipment, or its equivalent.

## Coal mine workers

- When you approach mobile plant and are not able to confirm positive communication with the plant operator, do not move into their area until positive communication is confirmed. Doing so will create an unacceptable level of risk.

## 2. Incident – Fall from height – CHPP

1. Maintenance work in a CHPP to replace a cyclone was underway.
2. The 110 kg vortex finder inside the cyclone was not secured.
3. During the lift to remove the cyclone, the vortex finder fell out.
4. It landed on the deck floor 7 metres below.
5. No coal mine workers were in the vicinity at the time.



# Recommendations

## Site Senior Executives

- Ensure the mine's risk management processes provide guidance to coal mine workers for identifying hazards that are hidden or masked.

## The senior position responsible for CHPP maintenance within the management structure

- Ensure supervisors who are applying risk management processes are identifying hidden hazard potential at all times.

## Coal mine workers

- Before commencing a task, consider the possibility of hidden hazards when conducting local risk controls.



### 3. Incident – Fuel fire – Surface Mine

1. A coal mine worker was refuelling a rear dump truck at a bulk fuel storage.
2. The fuel delivery hose split and sprayed fuel onto the truck.
3. The fuel was ignited by hot components.
4. Water trucks were used to extinguish the flames and prevent the fire spreading to the bulk storage facility.



# Recommendations

## Site Senior Executives

- Review the provisions for emergencies at bulk and field refuelling facilities to provide an acceptable level of risk.

## The senior position responsible for mobile plant within the management structure

- Provide coal mine workers who refuel mining equipment, a competency at least equivalent to “DEFPET001 – Conduct field refuelling operations from a bulk fuel installation.”

## Coal mine workers

- Examine refuelling equipment diligently before use and ensure that you do not use equipment that appears to contain defects or is not fit for purpose.

## 4. Incident – Electric Shock – Underground Mine

1. An apprentice electrical worker was conducting electrical work in a longwall.
2. The electrical worker was testing the insulation on a 3.3kv drive supply cable.
3. During the testing the electrical worker received an electric shock.
4. Investigation to identify the source of the energy is ongoing.



# Recommendations

## Site Senior Executives

- Review work management systems related to electrical equipment. This should include apprentice supervision guidelines.

## Electrical Engineering Manager

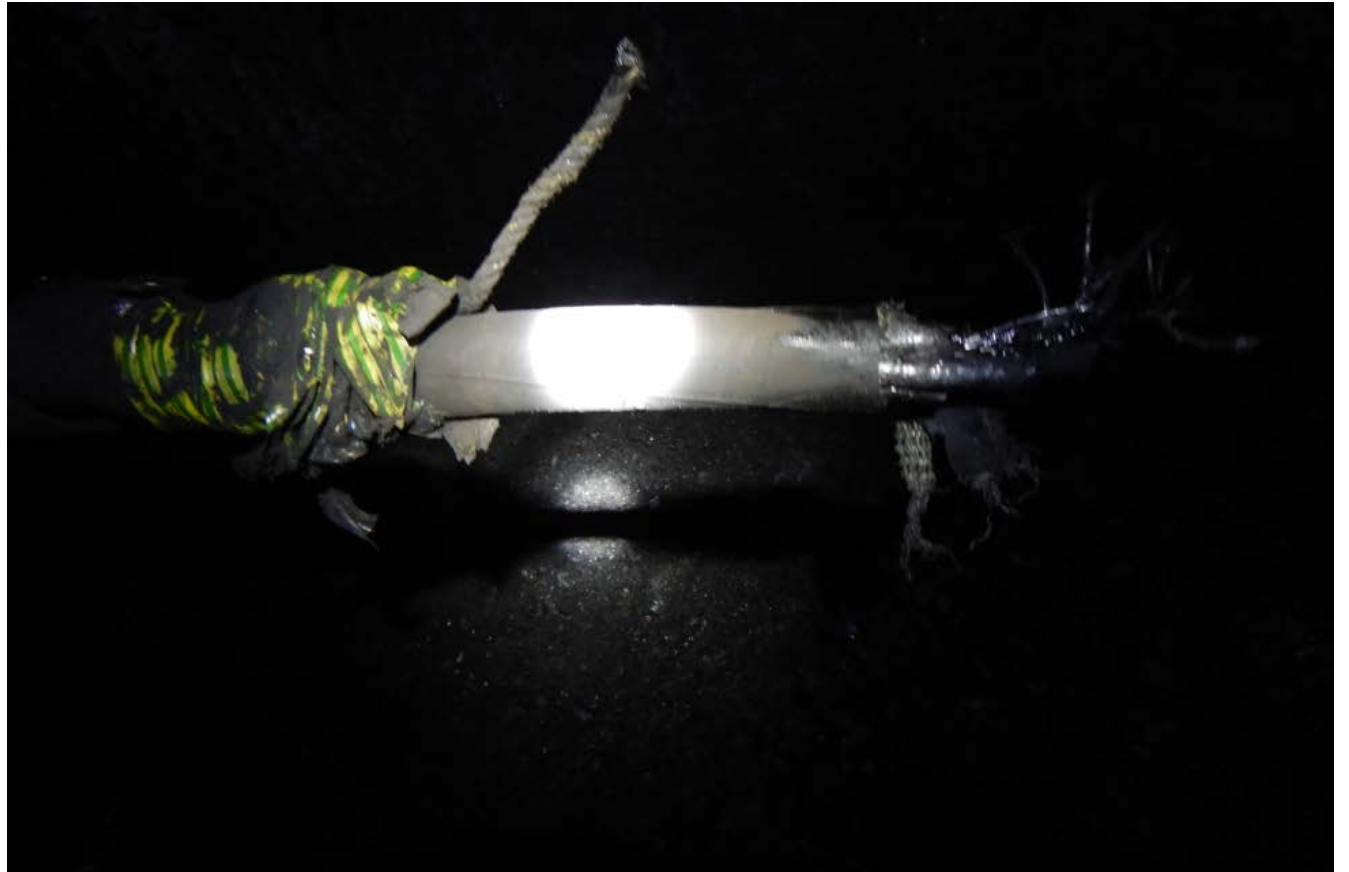
- Ensure there is a procedure for undertaking the work of high voltage insulation testing by electrical workers.

## Coal mine workers

- Electrical workers must diligently comply with the mine's high voltage insulation testing procedures to ensure an acceptable level of risk.

## 5. Incident – Cable failure – Underground Mine

1. A coal mine worker was trammimg a shuttle car away from the conveyor loading point.
2. As the shuttle car went past the cable anchor point, the coal mine worker saw a flash from the cable reeler and lost all power to the shuttle car.
3. The electrical protections systems activated.
4. Inspection found the cable had separated at a splice.



# Recommendations

## Site Senior Executives

- Ensure the electrical engineering manager has an effective system for identifying the condition of trailing cables before an unacceptable level of risk develops.

## The supervisor

- Confirm coal mine workers are conducting effective inspections of trailing cable condition and anchor point installation to ensure an acceptable level of risk.

## Coal mine workers

- Conduct effective inspections of trailing cable condition, anchor point suitability to ensure sub-standard installation or cable condition is rectified before commencing equipment operation.

## 6. Incident – Entanglement – Underground Mine

1. Coal mine workers were installing strata support in a longwall tailgate using a portable roof bolter.
2. The drill steel got stuck in a drill hole during drilling.
3. When assisting to free the stuck drill steel, the worker's long hair was caught by the rotating drill steel.
4. Some hair was torn from the worker's scalp.



# Recommendations

## The supervisor

- Confirm coal mine workers have considered the hazards created by their personal grooming decisions when applying local risk controls, including loose hair, clothing and/or jewellery.

## Coal mine workers

- Take into account the hazards that personal grooming preferences may expose them to and ensure when conducting local risk controls they have effectively managed the hazards, including loose hair, clothing and /or jewellery.



# October 2020 Incident periodical

Recent High Potential Incidents  
Learnings and Recommendations  
Queensland Coal Mines Inspectorate

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# 1. Incident – Collision – Surface Mine

1. A medium vehicle which was under escort at the time, has collided with another medium vehicle that was in the process of turning left off the access road that they were travelling on.
2. Other vehicles were travelling between the escort vehicle and the medium vehicle being escorted.
3. The driver of the last medium vehicle was not aware the medium vehicle ahead was turning to the left.
4. The track on the left hand side of the access road that the leading medium vehicle was turning into was not a designated or demarcated intersection.
5. No injuries, however significant vehicle damage resulted.



# Recommendations

## Site Senior Executives

- Ensure that the procedures for escorting mobile equipment mine are effective and all relevant coal mine workers are competent in their use.

## The senior position responsible for ‘design and construction of mine roads’ within the management structure

- Ensure all intersections are demarcated and sign posted as per the mine’s specifications for design and construction of mine roads

## Coal mine workers

- Ensure the required separation distance between vehicles when travelling is always maintained
- Must always be vigilant when driving, and on the lookout for the unexpected to happen

## 2. Incident – Collision – Surface Mine

1. An overburden blast hole drill was tramming up a ramp when it lost all forward travel motion, and then rolled backwards down the ramp approximately 4 metres before coming to a stop under its own control.
2. The drill's engine was still running at the time and had not shutdown.



# Recommendations

## Site Senior Executives

- Ensure processes are in place to inform equipment suppliers of defects and to involve OEMs in the trouble shooting of abnormal events to enable suppliers to address obligations related to the safe use of plant.
- Make sure equipment training procedures consider operator abnormal conditions / emergency response procedures (such as loss of power and traction).

## Supervisors

- Make sure operators are trained in how to deal with abnormal events.

## Coal mine workers

- Make sure you are aware of and familiar with methods to control equipment when abnormal events occur, such as loss of power.

### 3. Serious accident – Crushed finger - Laboratory

1. A coal sampling lab technician was cleaning out the hopper of a Wallaby coal sample crushing benchtop machine, when the raised access cover fell forward and down onto the person's right hand.
2. The injured person was hospitalised for the treatment of a finger injury.



# Recommendations

## Site Senior Executives

- Ensure the mine's Risk Management processes provide guidance to coal mine workers for identifying hazards that are developing or hidden.

## The senior position responsible for laboratory coal sampling laboratory within the management structure

- Ensure supervisors who are applying risk management processes are identifying potential hazards at all times, and ensuring effective controls are in place.

## Coal mine workers

- Before commencing a task, consider the possibility of developing hazards when conducting local risk controls.

## 4. Incident – Excavator rollover – Surface Mine

1. A 350t excavator working on a bench was tramming when an uncontrolled movement off the bench occurred, and this resulted in the machine toppling over onto its side with the cabin up in the air.
2. The relatively inexperienced operator was not injured, and extricated unassisted via a portable ladder provided by ERT.





# Recommendations

## Site Senior Executives

- Ensure the mine's safety and health management system contains stated methods of controlling all risks associated with excavators working on benches.

## The senior position responsible for mobile plant within the management structure

- Ensure supervisors take the action necessary to prevent or correct matters that do not conform with the safety and health management system.

## Coal mine workers

- Must comply with procedures applying to them that are part of the mine's safety and health management system.
- Ensure spatial awareness at all times when operating equipment

## 5. Incident – HV Cable damage – Surface Mine

1. A dozer walked onto a dragline's high voltage tail cable. This resulted in the earth continuity tripping the power back at the sub-station.
2. An inspection of the cable revealed exposed conductors.



# Recommendations

## Site Senior Executives

- Should ensure adequate cable management procedures are in place.

## Supervisors

- Should audit and ensure that cable management procedures are implemented and being followed.

## Coal mine workers

- Should be aware of their surroundings and comply with cable management procedures.

## 6. Incident – Water Cart Rollover – Surface Mine

1. A water cart was descending a recently watered ramp when it lost traction with all wheels in a wet line. This resulted in the truck contacting roadside bunding and then rolling over 180 degrees coming to rest on its roof.
2. The operator was reported as having minor lower back pain.



# Recommendations

## Site Senior Executives

- Ensure the standard operating procedure for maintaining and watering mine roads is effective in achieving an acceptable level of risk.

## Supervisors

- Ensure coal mine workers are conducting their work in accordance with the mines safety and health management system.

## Coal mine workers

- Must report all hazards to their open cut examiner and supervisor.

## 7. Incident – Fall from Height – Washplant

1. A crowbar was found lying in a walkway. The crowbar was moved from the walkway before it was realised that it had fallen from the floors above.
2. Initial investigation revealed that the crowbar had been placed in a Z-Purlin on an upper floor sometime earlier.
3. The Z-Purlin failed due to being heavily corroded / rusted, and this resulted in the crowbar and sections of the Z Purlin falling onto a bottom floor walkway.



Z purling's and crowbar fell 6m est.

# Recommendations

## Site Senior Executives

- Make sure systems structural audits are completed and actioned in a timely manner.
- Establish cleaning and housekeeping standards and audits for effectiveness.
- Make CMWs aware of the potential for falling objects and their potential impact.

## Supervisors

- Ensure housekeeping standards are maintained as required by the mine SHMS.
- Provide suitable storage facilities for tools when not being used.

## Coal mine workers

- Comply with site housekeeping standards and store items safely.
- Assess risks associated with leaving items of equipment around plant and equipment.

## 8. Incident – LHD and PJB Collision – Underground Mine

1. A load haul dump vehicle (LHD) and PJB collided in an underground coal mine in New South Wales.
2. Two PJBs were travelling in convoy passing the LHD that was in a cut through. The first PJB passed safely, but the LHD pulled out and collided with the second PJB.
3. The bucket of the LHD contacted the frame of the windscreen of the PJB on the driver's side.
4. Nobody was injured.





# Recommendations

## Site Senior Executives

- Must have protocols and procedures documented and implemented, including signalling when entering a roadway
- Should consider proximity detection and collision avoidance technologies.
- Should consider lighting and vehicle separation plans

## Supervisors

- Must ensure that vehicle operators comply with the protocols and procedures.

## Coal mine workers

- Ensure positive communications when moving into roadways
- Always Ensure Never Assume the roadway is clear to enter

# December 2020 Incident periodical

Recent High Potential Incidents  
Learnings and Recommendations  
Queensland Coal Mines Inspectorate

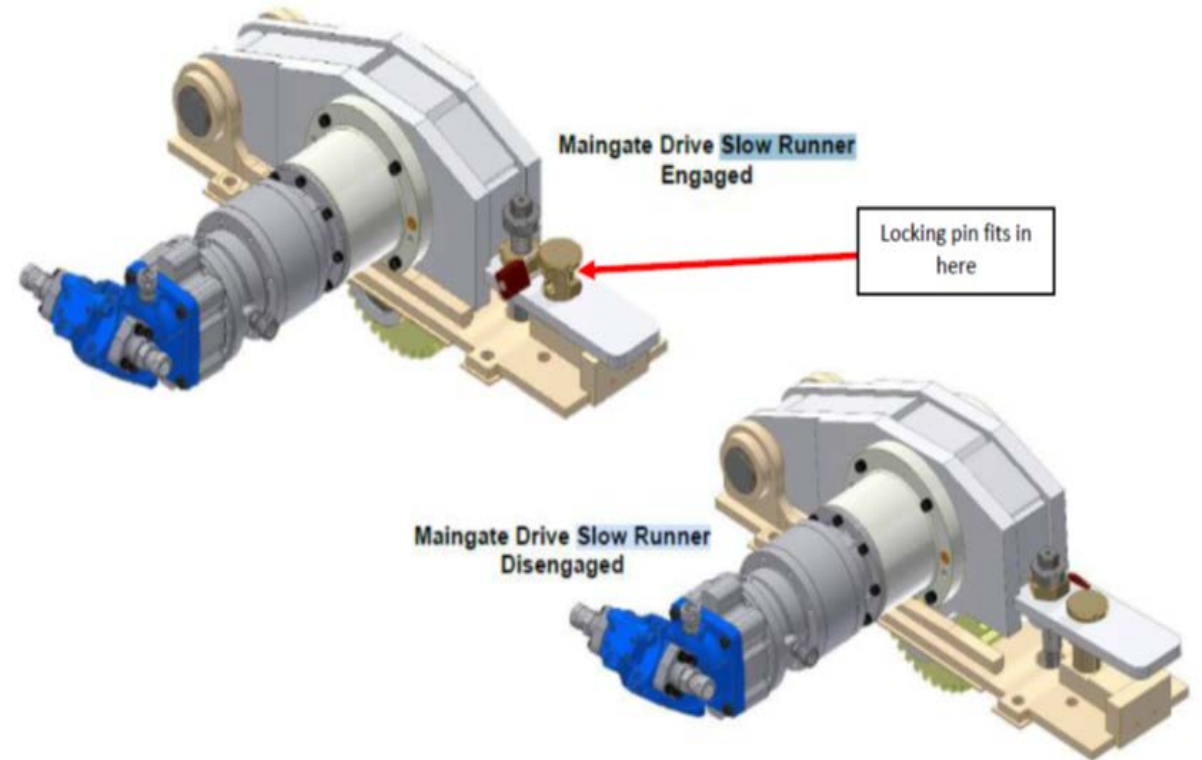
Coal Inspectorate



**Resources Safety & Health**  
Queensland

# 1. Incident – Energy Isolation Failure – Underground Mine

1. A coal mine worker was doing repairs to the AFC.
2. Electrical power to the AFC was isolated correctly.
3. The repairs required the hydraulic AFC slow runner be used to create slack in the top chain.
4. There was an energy release that allowed the chain to slip at the tailgate while the CMW was in the line of fire.
5. The energy release was due to not engaging the slow runner correctly.
6. The CMW sprained their ankle avoiding the moving chain.



# Recommendations

## Site Senior Executives

- Ensure energy sources are being effectively controlled by the safety and health management system and that relevant coal mine workers are competent in the use of the controls.

## The senior position responsible for mechanical maintenance within the management structure

- Design, install and implement suitable energy controls for use of the AFC slow runner.
- Provide coal mine workers with competency such as RIIAM207E Apply operational maintenance skills, or similar.

## Coal mine workers

- Identify all of the line of fire possibilities affecting each task
- Stay out of the line of fire of an energy source, until you know the energy source has been controlled and you have tested and proved the control is effective.

## 2. Incident – Unplanned Movement – Surface Mine

1. A coal mine worker tasked with field service work arrived to fuel a bulldozer.
2. The service truck was stopped facing the bulldozer, not parallel to it.
3. The CMW did not apply the truck's park brake before leaving the cabin.
4. As the CMW went to access the bulldozer, the truck rolled forward into the ladder.
5. The moving truck hit the side of the ladder, just missing the CMW.



# Recommendations

## Site Senior Executives

- Ensure the risks of vehicle movement when parking are being effectively controlled by the SHMS

## The senior position responsible for field servicing within the management structure

- Ensure coal mine workers who conduct field servicing are competent to RIIAM212E – Service mine plant or equipment, or similar.

## Coal mine workers

- Always follow the SHMS vehicle park up procedures to prevent any vehicle movement occurring when you have left the vehicle cabin.

### 3. Incident – Near Miss – Underground Mine

1. Boreholes are used at an underground mine, to deliver materials to underground work areas.
2. Access to boreholes lids are locked with individually keyed locks.
3. A CMW went to the wrong borehole on the surface.
4. The lock on the borehole access was not properly closed.
5. The CMW was able to open the lock with the key for the other borehole.
6. The CMW dropped ballast down the borehole.
7. A CMW had been under the borehole doing inspections just beforehand.



# Recommendations

## Site Senior Executives

- Audit the effectiveness of the controls in the SHMS, designed to prevent similar near misses.

## The senior position responsible for delivery of supplies underground within the management structure

- Ensure the hazards of inadvertent access to a work area, are being effectively controlled by the SHMS.

## Coal mine workers

- Follow the SHMS procedure for delivering materials via boreholes.
- Stop when the conditions are not as described in the procedure and review the differences with your supervisor before recommencing work.



## 4. Incident – Serious Injury – Surface Mine

1. A CMW was cleaning the top of the excavator house using a water hose.
2. The CMW's feet got tangled in the hose and the CMW fell over.
3. The CMW landed on their shoulder in the fall and required medical treatment.
4. The humerus bone was fractured during the fall.



# Recommendations

## Site Senior Executives

- Ensure the SHMS adequately provides controls for the hazards requiring management during manual handling and housekeeping tasks.
- Provide CMWs conducting housekeeping for maintenance with a competency such as RIISAM207E - Apply operational maintenance skills, or similar.

## The senior position responsible for maintenance within the management structure

- Ensure coal mine workers follow the SHMS procedures applying to manual handling and housekeeping.

## Coal mine workers

- Be aware that significant injury can occur to you when carrying out a low risk task.

## 5. Incident – Misfire – Surface Mine

1. Forty nine holes misfired during an overburden blast.
2. The post blast inspection found a non-electric surface lead had been damaged by flyrock, causing the misfire.
3. Inspections confirmed the misfire could be reconnected and fired.
4. All holes fired at the second attempt.



# Recommendations

## Site Senior Executives

- Ensure the manager responsible for blasting activities has an effective system for designing blasts, to avoid an unacceptable level of risk from misfires developing.
- Provide coal mine workers responsible for blast design with a competency such as “RIIBLA403 – Design Blasts” or similar.

## The senior position responsible for blasting within the management structure

- Provide coal mine workers who conduct blasting operations, with a competency such as “RIIBLA301E – Conduct surface shotfiring operations”, or similar.

## Coal mine workers

- Strictly follow the blast designs provided.
- Stop loading and tie up activities when a blast design cannot be strictly followed in the field.

## 6. Incident – Collision – Surface Mine

1. A vehicle was being escorted through a surface mine.
2. The escort driver allowed a gap to grow behind them to the vehicle they were escorting.
3. A truck entered that gap.
4. The truck then slowed to turn off the road.
5. The driver of the vehicle under escort thought the truck was making a right hand turn.
6. The truck veered right then turned left and the vehicle under escort crashed into the side of the truck's cab.
7. No injuries were reported.



# Recommendations

## Site Senior Executives

- Ensure the SHMS has procedures for escorting vehicles at an acceptable level of risk.
- Provide CMWs with competencies suitable for the task such as RIICRM201E - Escort mobile works, or similar.

## The supervisor

- Ensure coal mine workers performing vehicle escort duties are competent in the relevant SHMS procedure.

## Coal mine workers

- Follow SHMS escort procedures diligently to ensure an acceptable level of risk