Department of Natural Resources, Mines and Energy

Incident periodical

Recent High Potential Incidents
Learnings and Recommendations
Queensland Coal Mines Inspectorate
May 2020

Queensland Government

Fall of Ground - Effective preventative controls

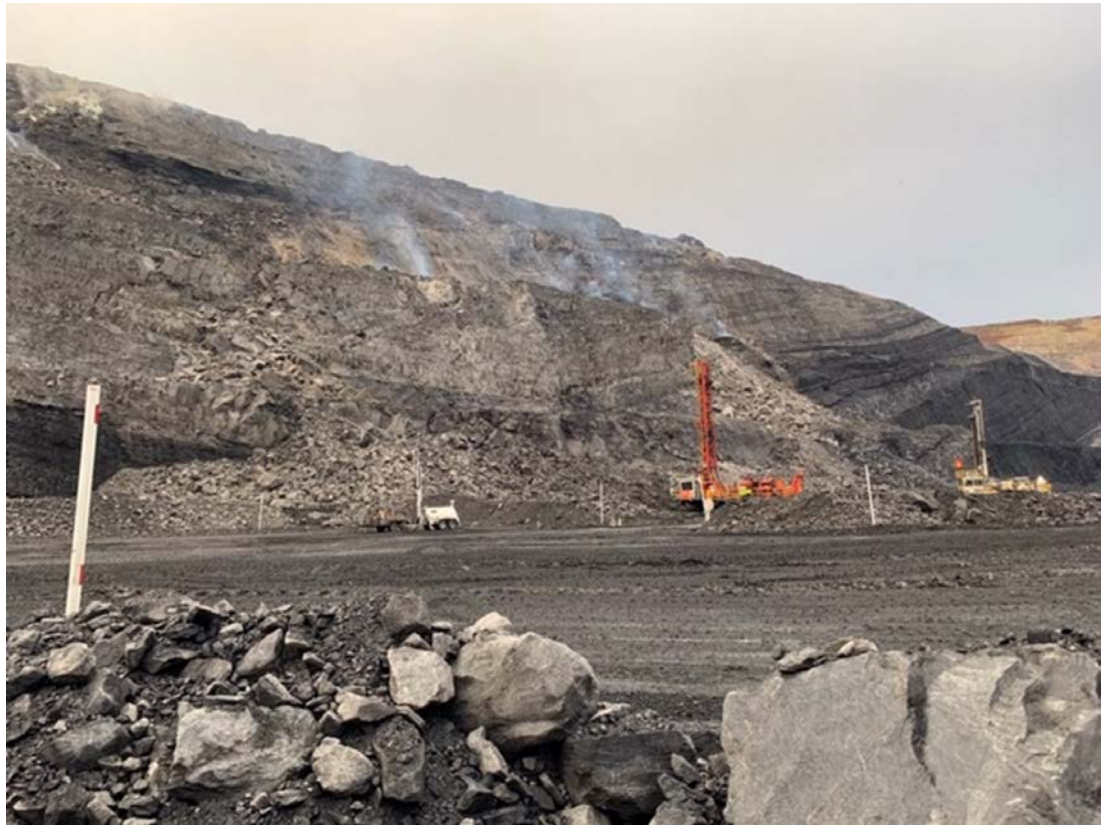
- Coal mine workers saw evidence of ground movement of the highwall
- Action was taken and communicated to ensure workers were not impacted by the failure
- The failure occurred in a controlled manner within the defined exclusion zone

Recommendations

- Coal mine workers to report any signs of ground instability to their supervisor, OCE or other mine official
- Supervisors and OCEs to ensure
  - Visual demarcation is placed along all exclusion zones. Examples being earth bund, witches hats, signage or fencing.
  - Have a process in place that ensures pits are always being excavated to design.
- Site Senior Executives
  - Ensure sufficient geotechnical data for safe pit design and modelling is collected, analysed, interpreted and communicated.
  - Ensure the Geotechnical risk management strategy includes rock fall modelling to determine appropriate exclusion zones, capable of containing any potential rock fall material within the exclusion zone.

Fall of Ground – Highwall failure

- A separation bund was built to delineate the exclusion zone on the drill bench
- The highwall had shown signs of instability previously
- Two drills were operating below the highwall outside the exclusion zone
- Material from the failure breached the exclusion zone bunds and the drilling operations were impacted by the fallen material
- Drill operators evacuated safely with the drills recovered later.

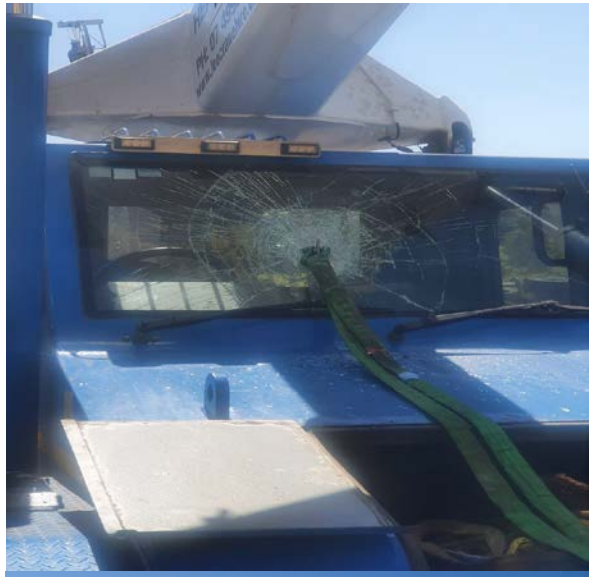


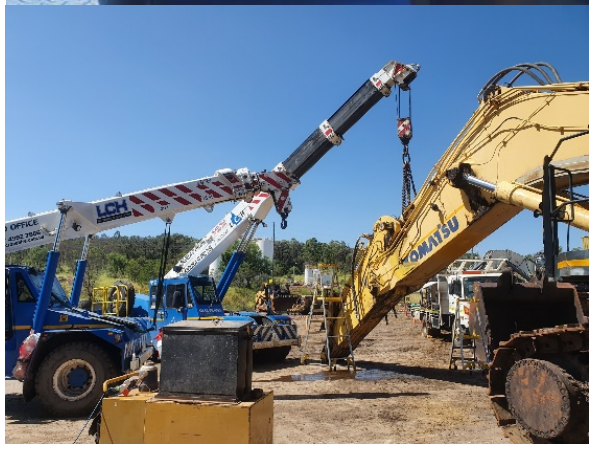
Recommendations

- Coal mine workers to report any signs of ground instability to their supervisor, OCE or other mine official.
- Supervisors and OCEs to ensure
  - Visual demarcation is placed along all exclusion zones. Examples being earth bund, witches hats, signage or fencing.
  - Installation and maintenance of separation barriers are effective in providing barrier to potential failures in part or across the highwall profile.
- Site Senior Executives
  - Ensure sufficient geotechnical data for safe pit design and modelling is collected, analysed, interpreted and communicated.
  - Ensure the geotechnical risk management strategy includes rock fall modelling to determine appropriate exclusion zones, capable of containing any potential rock fall material within the exclusion zone.

Line of Fire – energy release

- A cylinder pin was being removed from an excavator boom.
- Plan was to use the tractive force of a 20 tonne Franne crane, applied via a fabric sling to an attachment point welded to the pin.
- The attachment point failed at the weld and the energy release in the sling caused the attachment to strike the Franne windscreen.
- No coal mine workers were injured.



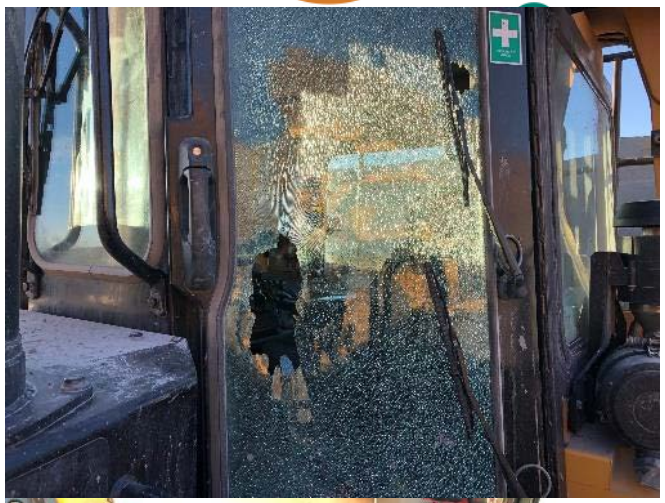


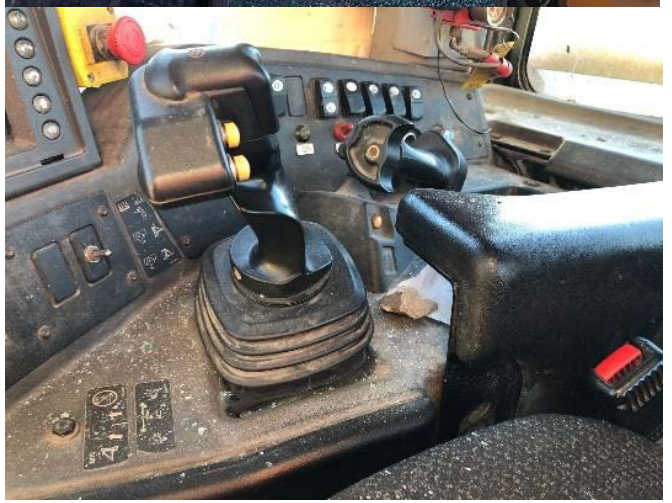
Recommendations

- Coal mine workers to identify line of fire situations and use effective controls to separate CMWs from potential uncontrolled release of energy situations.
- Supervisors must ensure
  - When CMWs use their initiative to solve a problem, the solution has an acceptable level of risk.
  - Ensure that fit for purpose equipment and systems of work are being used by the coal mine workers.
- SSE must ensure
  - Effective training of CMWs to recognise line of fire situations and regular refresher awareness and/or training is undertaken.

Line of Fire – energy release

- A coal mine worker in a dump dozer had a near miss when the dozer window was struck by a projectile.
- A position 3 tyre on a dump truck approx. 20 metres away failed and the energy release ejected a 50mm rock through the glass door missing the operator but showering them with glass.
- No injury reported.



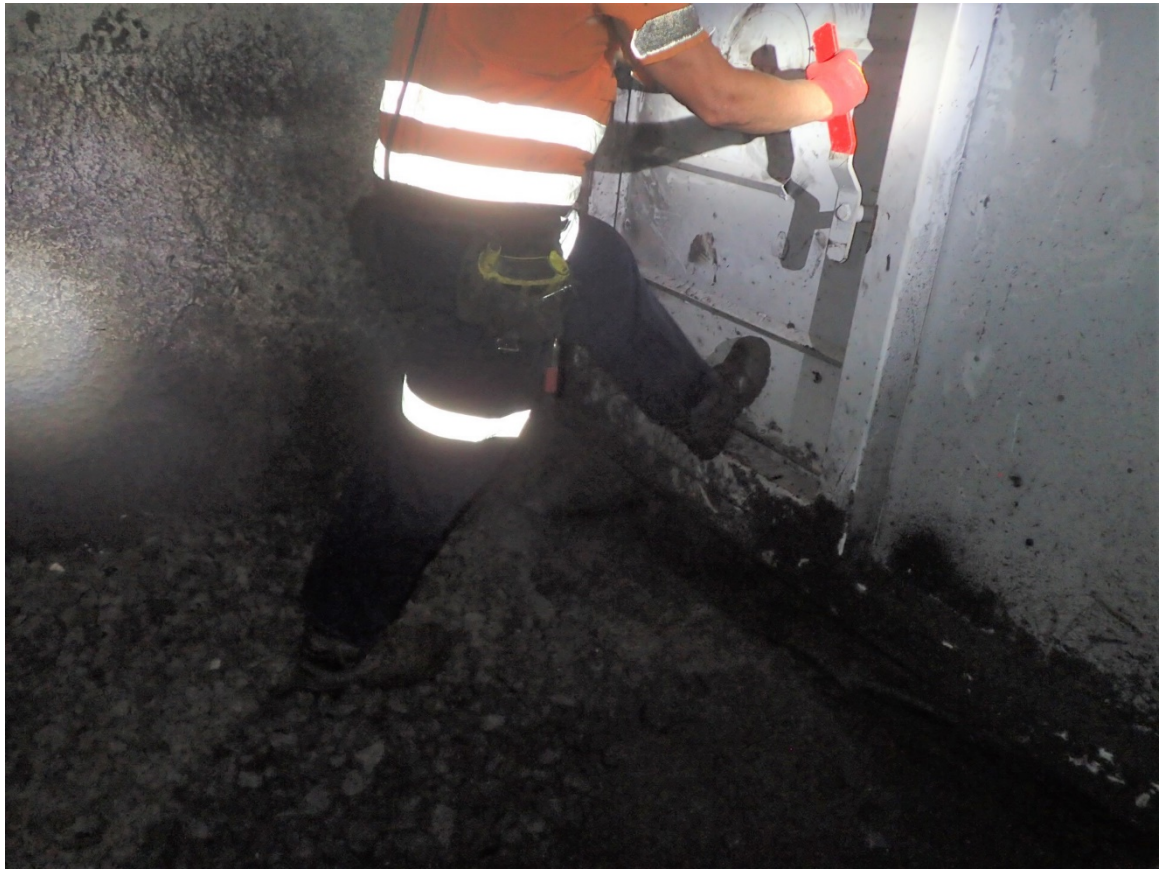


Recommendations

- Coal mine workers must ensure
  - Pre start inspections include the condition of tyres
  - Roads and dump areas are free of spillage and any spillage is reported for clean up
- Supervisors and OCEs must ensure that work areas are clear of spillage and equipment stand off distances and positions are observed.
- SSEs are to consider the use of ballistic glass products to reduce the risk of injury from such events.

Ventilation pressure - awareness

- A coal mine worker dislocated their knee when opening a ventilation door.
- The injuries included a tear to the ACL and fracture, that required surgery.

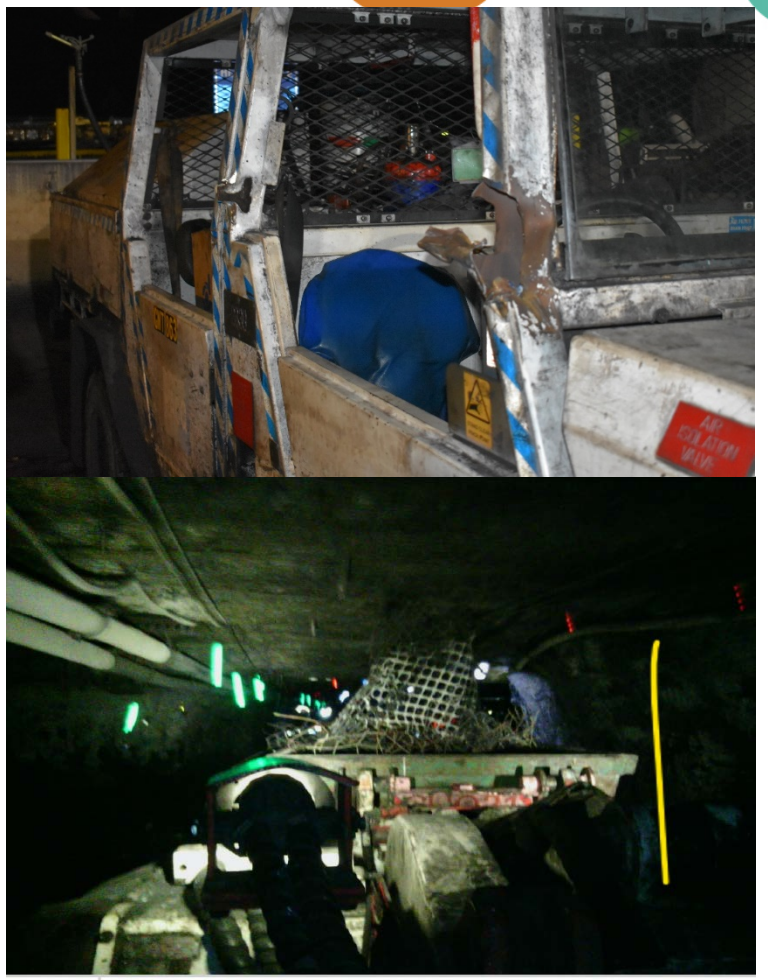


Recommendations

- The SSE must ensure that ventilation control devices are installed with the necessary effective controls to release ventilating pressure to allow doors to be opened without injury.
- Supervisors and ERZ Controllers must verify that controls for managing ventilation pressure across access doors are effective, maintained and achieve an acceptable level of risk.
- Ventilation officers are to measure ventilation pressures across ventilation access doors and have effective controls in place to release the ventilating pressure across these devices when required to be opened.

Underground vehicle collision

- An unattended driftrunner was hit with the load being carried by an Eimco front end loader.
- The driftrunner had been left parked across the cut through, parallel to the road and on the offside of the Eimco operator cabin.
- The coal mine worker was carrying the Eimco load forward of the direction of travel.
- Fortunately no one was in the driftrunner at the time of the collision.



Taken from LHD operator cab looking out bye

Recommendation

- Coal mine workers must ensure
  - When parking or stopping a vehicle, that it does not create a collision risk to passing machines. Ensure sufficient clearance for vehicle to pass.
  - When operating load carrying machines ensure that the load is behind the direction of travel so as they are able to see their travel path clearly or, be spotted by a coal mine worker who can control the travel path and has line of sight and positive communication with the operator.
- SSE to ensure the traffic rules for the mine clearly define the park up and travel requirements to ensure an acceptable level of risk is achieved