

Serious accidents and high potential incidents

Mining and quarrying

Compilation of reports for November 2011

Fall of Person (2)

- Two workers were observed sitting on a handrail of a winder headframe 40m above the ground.

Fall of Equipment/Material (12)

- While a 30t excavator was being driven up on to a 1.2m coal bench, the bench gave way and the excavator tipped over on its side.
- While pumping cement into a silo, a timber board on top of the silo dislodged and propelled 30m landing 3 m from a worker.
- Fitters were lifting a Cat 789C dump truck hoist cylinder using a telehandler. They used a flat webbed synthetic sling choked through the eye of the cylinder trunnion to sling it. The sling snapped causing the cylinder to drop 800mm to the ground.
- While fitters were detaching a wheel hub and spindle of a Cat 793D truck from the suspension cylinder the bottom bolts were loosened too far before the crane was attached to suspend the load causing spindle to fall to the ground.
- While pulling 100m drill rod string, the winch rope snapped causing the rods to free fall 12m down the drill hole.
- A Cat D11 dozer track frame was being turned over using an overhead crane when the multi-legged lifting chains slipped. The resulting shock load broke the lifting chains and damaged the crane.
- A CHPP deslime screen excitor assembly dislodged from its mountings as a result of the failure of the holding down bolts and fell onto the screen.
- Wind gusts in excess of 130km/h lifted the roof of a 2t overhead gantry crane causing one side of the crane to dislodge from its guide rail and fall 3m onto a walkway below.

Fall of Ground (12)

- A 30m wide section of endwall collapsed onto a ramp.
- During pre-strip activities some material was dislodged over the highwall and fell into the pit near a coal mining circuit. Neither crew was aware of the other's activity.
- While a Cat D11 dozer was preparing a ramp adjacent to a low wall, a section of the wall failed and slipped against the side of the dozer breaking the cabin door window.

- A miner was hydroscaling a heading using a shotcrete boom when a rock fell down the boom and hit him on the head.
- Prior to uphole charging close to a stope brow two workers were sounding the shotcreted back from a charge basket when a thin slab fell striking the basket. Some of the slab fell to the ground while the rest fell into the basket.
- A miner was struck by a rock while digging out lifter holes at a bored face. He sustained minor lacerations.

Mechanical (15)

- A fitter was knocking a tooth off a loader bucket using a soft steel sledge hammer when a sliver of steel ejected and lodged in the groin of a boilermaker who was assisting. It had to be surgically removed at the hospital.
- An exploration drill operator was trying to free a winch rope caught on the stabiliser when his shirt became caught on the winch control lever causing the work platform to rise and strike the offside's forearm.
- An operator suffered a fractured leg when he was struck by a shovel cable being pulled over rough ground.
- A worker was struck in the back by a sudden discharge of coal slurry from a kinked pump hose which he was clearing using compressed air. His lower back was severely bruised.
- A fitter was using a crowbar with pipe extension to adjust tracks of a Cat D11R dozer when the crowbar slipped and the pipe struck him between the eyes.
- After replacing the front strut assembly of a Komatsu 830E dump truck a fitter was trying to recover the pressure sensor from the old strut when oil released under pressure spraying him with oil.
- After a cylinder change at a coal load-out bin the operator started the hydraulics to bleed air from the system. One of the chute doors opened unexpectedly spilling 20t of coal on to the floor.
- While being driven at slow speed the wheel assembly of a light vehicle detached when the swivel housing suffered a structural failure.
- While a flipper ram was being fitted to a chock at a coal mine face the piston of the outer sprag cylinder detached from the cylinder rod at a welded joint projecting it onto the ground.

() The number in brackets next to each category heading is the total number of accidents and incidents reported for that category.

- The rear axle failed on a grader causing the tyre and axle to separate from the grader.

Vehicle – Collision (21)

- A service truck was parked behind a Sandvik DR460 Drill on a drill pattern. The drill reversed a slow speed into the service truck.
- A light vehicle was parked on the side of the road and as a medium rigid truck turned right at a T-intersection, the tray of the truck clipped the light vehicle.
- A Cat D10 dozer being used to clean up a dig face clipped a stationary Cat 789 rear dump truck.
- A D10R dozer was being walked through a narrow access beside an O&K RH200 shovel. The shovel swung to load a truck and the counterweight on the shovel struck the dozer.
- A Cat 777F water cart entered the tip head area without making positive communication with a Komatsu 375 dozer working in the area. The water cart stopped behind the dozer. The dozer operator was not aware of the water cart and reversed into the water cart.

Vehicle – Loss of Control (40)

- A Cat D400 articulated water truck rolled onto its side while turning a corner at an intersection.
- A Cat D350D articulated water truck overturned as it exited a ramp onto a bench.
- A Volvo A40E articulated truck operator lost control of his truck on a recently watered section of road while approaching a corner. The trailer lost traction and rolled while the prime mover mounted the safety bund.
- A loaded Volvo A25 articulated dump truck rolled onto its side while turning a corner onto the quarry floor after travelling down a ramp.
- The trailer of a Cat 740 articulated water cart rolled onto its side while turning a corner.
- The trailer of a Cat 740 articulated water cart rolled onto its side when one side of the truck drove up onto a rill.
- A Cat 785 dump truck slipped on a recently watered section of road, spun through 180 degrees and came to rest against the safety bund.
- After being parked a light vehicle rolled about 10m before stopping when the cab struck a stacker conveyor.
- A prime mover tipped on its side while travelling on an access road.
- A light vehicle driver lost control of his vehicle on a recently watered road and slid sideways before rolling the vehicle when it contacted the dry road surface.
- A 25 tonne Franna Crane rolled onto its side while unloading a 12.5t crate.
- Within half an hour of each other two Komatsu 830E dump trucks in a metalliferous opencut mine lost traction on a ramp that had been wet from overnight rain. One truck skidded for 50m before hitting the safety bund while the other skidded for 70m and spun through 180 degrees when the brakes were applied.

- Two workers were in the basket of a cable hanging vehicle when it moved forward 6m after three of the four stabiliser jacks were lifted. The vehicle came to a stop against the wall.
- At a metalliferous mine an empty Cat 789C dump truck lost traction while coming down a ramp which was wet from rain and side-swiped a loaded Cat 789C dump truck coming up the ramp.
- While being towed to a new location a mobile lighting plant detached from the light vehicle and rolled off a 2m high bench.
- A Cat 785 dump truck operator lost control of his truck as he approached a corner on a recently watered section of road and ended up sliding into the safety bund.
- A loaded Mack agitator road truck tipped over while it was travelling down a decline as it turned into a passing bay to give way to a truck coming up the decline.
- A Kenworth K108 service truck lost traction as it travelled down a spot watered ramp and slid for 60m before the operator regained control.
- A light vehicle travelling on an exploration site drove through an open farm gate. The driver stopped quickly to close the gate to prevent cattle which were close by from going through. He pushed the gear lever forward and got out. As he walked towards the gate he noticed the reversing lights were on and the vehicle rolling slowly back. He pushed on the tailgate to stop the vehicle and got the driver of an accompanying vehicle to get in the cab, take it out of reverse gear and apply the handbrake.
- A Cat 793C dump truck veered across a separation bund onto the opposite side of a haul road when the operator had a microsleep.

Explosion (7)

- A raisebore pilot hole which was being drilled from the surface unexpectedly intersected a development round that was being drilled and charged from an underground heading. The miners were unaware that the pilot hole was in the face until after the round was fired.
- A quarry worker heard a popping sound and saw gas being vented from a 25mm breather on the top of an LPG tank. All personnel were withdrawn from site until the leak was brought under control.
- The access door to an underground emergency refuge bay (ERB) was blown off its hinges as a result of a hydrogen gas explosion in the ERB caused by overcharging of the lead acid batteries housed in the ERB.
- A yellow tag transmitter associated with the use of non flameproof diesel equipment in underground coal mines was found to have been damaged and the battery pack was not with the transmitter.
- A conveyor motor cable was severed by a rock due to a missing cable protection plate on the shovel of a continuous miner.
- During routine inspections of the flameproof enclosure for an auxiliary fan in an underground coal mine the electrician found a crack in the viewing window.

Fire (28)

- A fire started on a Normet Spraymec underground shotcreting rig when a broken fusible link in the engine bay arced on the frame causing the insulation to catch alight. The fire was extinguished with a hand held fire extinguisher as the fire suppression system didn't cover the location of the fire.
- A fire in the engine bay of a Cat 637 scraper was extinguished by the operator using the fire suppression system.
- A small fire started on a Cat D11T dozer after a hydraulic line split and sprayed oil onto the turbo.
- A fire started in the engine bay of an Atlas Copco MT6020 underground dump truck after degreaser, which had been absorbed by the lagging around the exhaust manifold, caught alight. The operator extinguished the fire by using the on-board suppression system.
- An electrician received superficial burns to his hands and face when an ignition occurred within an electrical enclosure on a Hitachi EH4500 dump truck while repairing cable insulation using heat shrink and a butane heat gun. He had used contact cleaner to remove moisture from the enclosure and left it to dry for 15 – 20 minutes prior to commencing the repair.
- A fire started in the engine bay of a Cat AD55B underground articulated dump truck as it drove up the decline to the portal. The operator activated the on-board fire suppression system which extinguished the fire.
- A small fire started in the front wheel of a service truck after coal fines packed in the disc brake caught alight. A hand held extinguisher was used to put the fire out.
- A fire on the booster compressor of an underground drill rig was extinguished by the operator using hand held fire extinguishers. Due to the smoke generated the mine was evacuated and the ERT mobilised.

Electrical (21)

- A 15MVA 132/11kV transformer exploded cutting power to the mine.
- Suspected ingress of vermin into a 3.3kV 660kW exhaust fan circuit breaker caused the circuit breaker to fail.
- A 66kV powerline touched the ground due to the timber cross arm failing as a result of heat fatigue.
- A worker received a 74V 372kHz electric shock whilst using a RIM-6 Ground Penetrating Radar transmitter. The worker came into contact with the metal mounting plate and earth.
- An 11kV powerline failed in service and fell onto the 415V powerline installed below. The resulting power surge caused catastrophic failure of electrical protection devices and electrical equipment.
- During preparatory work for a crushing plant upgrade, an excavator severed a live 415Volt cable. The cable and 4 others were not shown on the site services drawing and were not detected by

the cable wand that was used before excavations commenced.

- A worker received an electrical shock from the lead of a power tool whilst replacing a screen. The worker had not completed a pre start inspection and was unaware of a cut in the cable exposing the active conductor.

Other (4)

- During a storm water flowed into the portal and down the main decline of an underground mine.
- A storm blew roof battens off the roof of a concentrator. They landed on the roof of an adjacent building and fell onto the ground close to a walkway.
- Following an overburden blast at an opencut coal mine a level 3 fume event occurred which due to a change in wind direction resulted in the fume travelling towards the 'go line' 2 km away where two servicemen were refuelling a dump truck. The blast-controller radioed for all persons to evacuate the area. The servicemen initially left but then went back to pick-up their fuel hose. Subsequently one of the workers reported that he was feeling unwell. Both workers were taken to hospital for suspected fume inhalation.

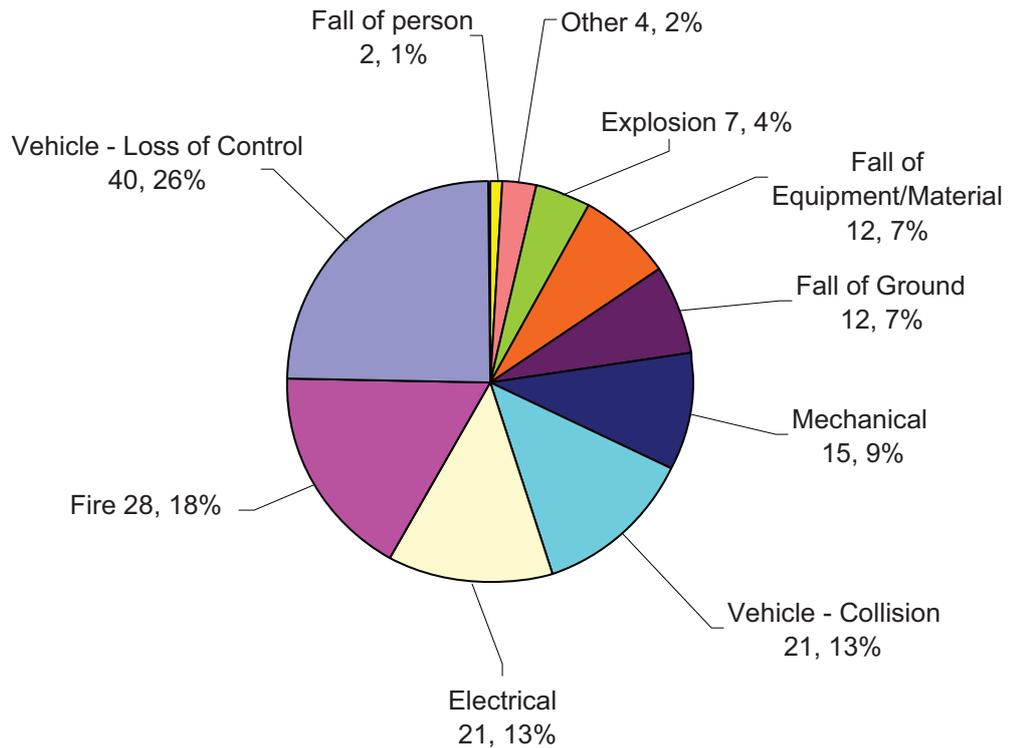


Figure 1: November 2011 Incidents (total 162) by Category

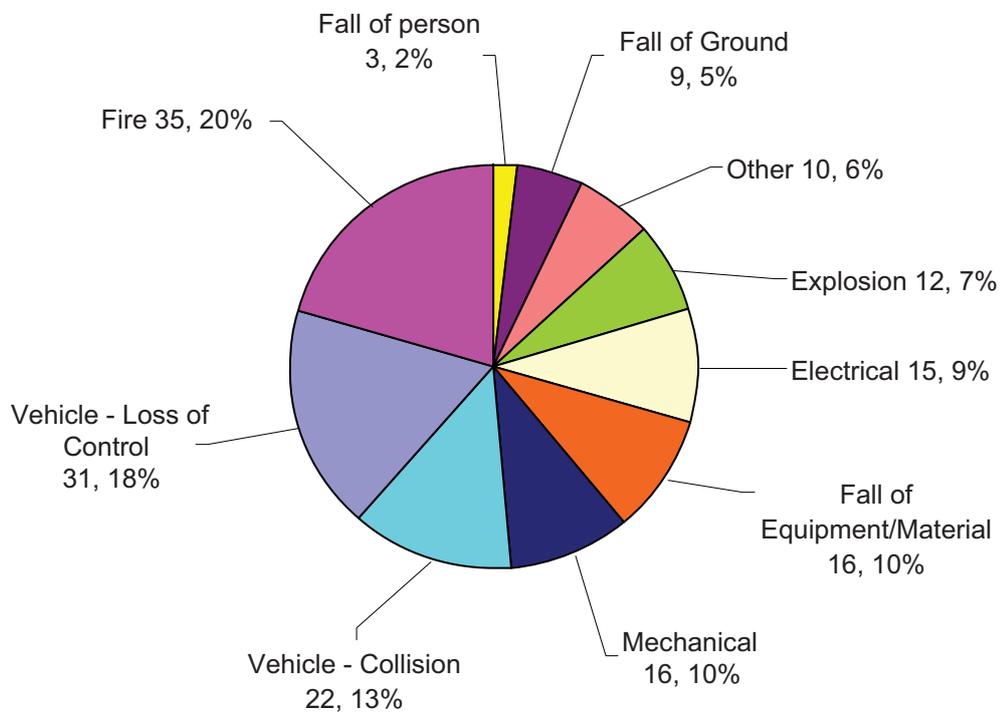


Figure 2: Twelve Month Rolling Average (169 incidents/month) by Category