

# Serious accidents and high potential incidents

## Mining and quarrying

### Compilation of reports for January 2011

#### Fall of Person (6)

- A worker fell from an extension ladder while re-gassing a suspension cylinder on a position 1 tyre of a Cat 793 dump truck. He struck his head on the tyre and concrete floor. He sustained a concussion and bruising.
- While fitters were removing the radiator assembly from a CAT 784C Coal Hauler the air box to which handrails were attached was removed from the truck leaving the fitters exposed to a 4m fall hazard.
- A worker fell 1.8m from the tray of a truck while assisting to load a generator. He suffered a compound fracture to his lower right leg.
- A worker was tightening a bolt on a crusher when the torque wrench slipped off the nut and he fell awkwardly to the floor. He fractured his left lower tibia and dislocated his left ankle.

#### Fall of Equipment (16)

- A dump tip edge collapsed under a Cat 793 dump truck as it reversed to tip. The driver evacuated as the truck subsided.
- A Cat 793 dump truck was reversing into position to dump short when the edge of the tip head collapsed, resulting in the back wheels going over the edge.
- A dragline subsided when the pad it was working from started cracking due to a minor failure in the face. The dragline was walked onto stable ground.
- A 95kg load which was being lifted by a crane dropped onto the tray of a truck when the shackle pin unscrewed.
- A sheet of steel mesh flooring being removed from a transfer tower slipped from the workers' hands and fell to the ground narrowly missing some other workers on a lower level.
- A fitter was using a porta-power and spacer block assembly on a workshop bench to repair a damaged continuous miner hose support bracket. The assembly slipped and the bracket fell off the bench striking the fitter's boot and breaking a toe.
- A boilermaker was crimping pipe swages onto a wire rope when the hydraulic press assembly fell and crushed his hand against the press frame.

#### Fall of Ground (10)

- A fall of ground in a drive from the footwall engulfed a Cat 1300 underground loader. The operator was rescued from the loader via the rear window.

- A 200t rockfall occurred on an incline while it was being developed.
- A roof fall of approximately 50m<sup>3</sup> and extending across the five tailgate shields occurred on a longwall face.
- A slippery back structure approximately 30m in length failed in the high wall resulting in a rockfall.
- A circular failure of approximately 35000bcm of sandy material occurred from the crest of a highwall ramp.

#### Mechanical (22)

- While a tyre handler was positioning a Cat 797 dump truck tyre the tyre grab assembly failed at the slew bearing resulting in the tyre and grab assembly lowering to the ground.
- A grader was using towing chain to pull a bogged light truck when the chain broke smashing the truck windscreen.
- During a minesite acceptance inspection of a roadtrain a tyre on the truck blew out due to a zipper type failure.
- While lowering a powered support on a longwall the support continued to lower after the valve was released.
- A fitter received a possible hydraulic fluid injection injury when a pressure inter-chock hose burst on a longwall.
- A fitter was hit by a drag rope while re-socketing a rope on a dragline.
- A driller's offsider was using a hardened steel sledgehammer to break out rods on a drill rig when a piece of the hammer flew off and embedded in his left shoulder.

#### Vehicle – Collision (15)

- A reversing Cat D10 dozer collided with a coal hauler which was dumping at a stockpile.
- An Eimco 130 loader carrying a mesh pod and travelling into a development panel struck the side of an airtrack drill rig, which was parked on the side of the access road.
- A Cat 793C dump truck narrowly avoided a collision when the operator failed to give way to a JLG Telehandler at an intersection.
- Two Hitachi EH4500 dump trucks were involved in a rear end collision while travelling to a shovel to be loaded.
- The driver of a concrete truck, on his way down a decline, lost control of the vehicle and contacted the wall.
- A dozer backed into a parked light vehicle.

- An Atlas Copco ST1520 loader mucking to a recess that was designated as 'no parking' collided with a service vehicle that parked in the recess.

### Vehicle – Loss of Control (27)

- An operator lost control of his Cat 633 scraper when the hydraulic steering line failed. The scraper ended up on the opposite side of the haul road.
- While waiting to be loaded a Komatsu 930E dump truck rolled back 35m. At the time the operator was on the ground isolating the truck after it had lost propulsion.
- When a light vehicle went over a bump the lighting plant it was towing uncoupled, the safety chain broke and the lighting plant rolled back 40m.
- After a Cat 789 dump truck overtook a grader the truck skidded on a recently watered section of road as it moved back to the left hand side of the road.
- A rear wheel fell off a light vehicle after all the wheel studs broke.
- A Cat 793 dump truck was at the bottom of the ramp and turning into the pit when it hit a wet section of road and slid into the centre berm.
- A worker lost control of a 10t Cat forklift when it gained speed while transporting conveyor splicing equipment down a portal ramp in first gear. He drove the forklift into the wall to stop it.
- A Toyota troop carrier rolled onto its side when the driver lost control of the vehicle while travelling down a wet ramp.
- A Cat 930E dump truck slid while leaving a dump and came to a stop against a safety berm.
- A low loader truck was transporting a roll of conveyor belt to a lay down area when it rolled over while turning a corner.
- A Moxy 40t articulated truck tray tipped over while backing up to tip. The cab remained upright.
- While driving in the pit, an operator of a Cat 785 dump truck had a micro sleep and drove into a safety berm.

### Explosion (7)

- A generator battery exploded when the generator was started.
- While starting a trailer mounted dewatering pump the workers noticed smoke coming from a broken isolator and from under the battery box. Shortly after, the battery lid blew off spraying acid on the workers.
- While carrying out a daily inspection on a continuous miner an electrician found the flame path gap on a solenoid enclosure on the main valve bank to be greater than the allowable gap.
- An instrument transformer associated with a 20MW 132/11kV power transformer exploded throwing oil, internal components and pieces of ceramic insulation over a radius of 20 metres and started a fire in the 11kV cables.

### Fire (30)

- A boilermaker suffered burns to his chest when a flashback occurred at the handle of an oxy acetylene torch.

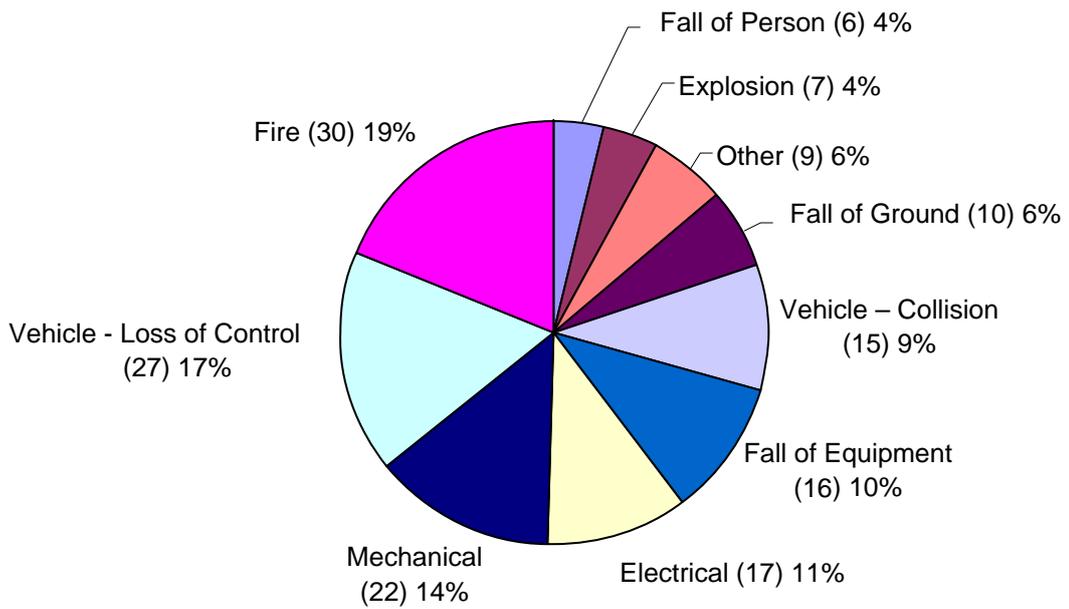
- A small fire started in the engine bay of a Drilltech 750 drill rig when a mast hydraulic hose ruptured and oil dripped onto the hot exhaust.
- A leak in a hydraulic hose sprayed oil onto the hot engine parts of a blast hole drill rig. The resulting fire was extinguished by the on-board suppression system.
- Oil dripping from a worn braided hose in the engine bay of a Cat D10 dozer caught fire. The operator put it out with a hand held extinguisher.
- The turbo on a dozer failed and exploded causing oil to spray over the hot engine. The resultant fire was extinguished by the on-board suppression system.
- A fire occurred in the engine bay of a Cat D10R dozer after a hydraulic hose failed spraying oil onto the hot turbo.
- Burning oil from a turbo fire on a Komatsu 930E dump truck sprayed onto the pos 2 tyre igniting the tyre. The fire was extinguished and the truck isolated in an exclusion zone for 24 hours.
- While filling up a fuel pod located beside a Legra pump, diesel sprayed out of the overflow valve onto the exhaust manifold of the pump and started a small fire.

### Electrical (17)

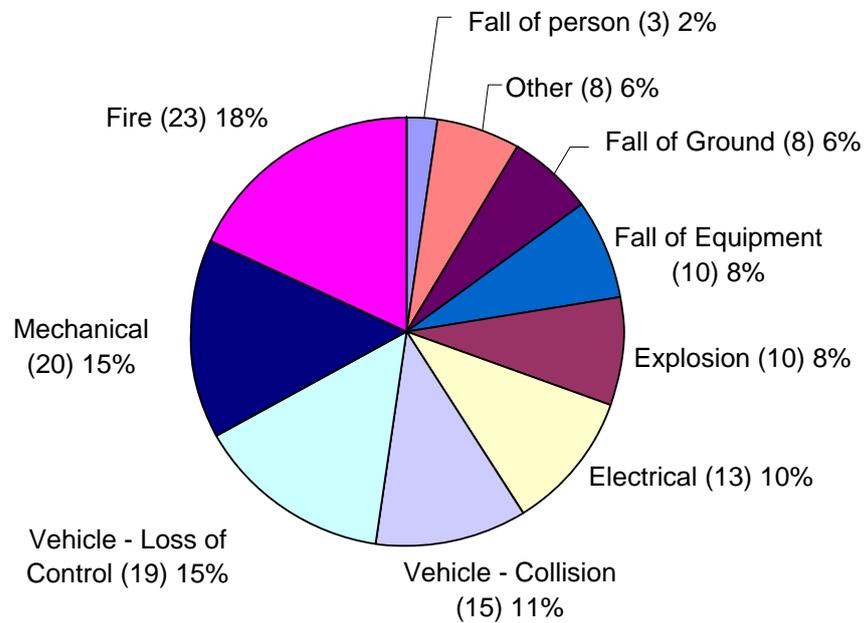
- A worker received an electric shock while servicing a diesel generator. The earth wire had broken away from the earth stake.
- A fitter received an electric shock from the pendant control of a crane which is believed to have had moisture in it.
- A worker received an electric shock while unplugging a MIG welder from the power lead when his fingers came into contact with the pins on the plug.
- A Terex RH340 Excavator had its bucket raised while being walked to a new location. As it passed under a 66kV power line at a designated crossing it contacted one of the wires causing it to break. The power tripped off.
- A failure of a tailings line running under an 11kV power line resulted in the line being covered in tailings which tripped the power off.
- During a conveyor extension, a lockout switch was incorrectly programmed. This subsequently allowed the conveyor to start despite the lockout switch being in the off position.

### Other (9)

- A worker was bitten on the leg by a snake while servicing equipment.
- A surface blast crew worker was treated for heat stress symptoms.
- A Jumbo operator was taken to hospital with possible heat stress symptoms.
- A boilermaker working on a smelter furnace was affected by carbon monoxide fumes from the smelting process.
- Following recent heavy rains the northern wall of a quarry storage dam failed resulting in water flowing onto an adjacent property.



**Figure 1: January 2011 Incidents (total 159) by Category**



**Figure 2: Twelve Month Rolling Average (130 incidents/month) by Category**

# Serious accidents and high potential incidents

## Mining and quarrying

### Compilation of reports for February 2011

#### Fall of Person (3)

- A worker was washing his light vehicle when he slipped and fell 1.5m between the wash down ramps dislocating his shoulder.
- The driver of a Cat 740 articulated dump truck fell 2.5m from the cab access platform ladder over the handrail to the ground. He fractured his ribs, vertebrae and pelvis.

#### Fall of Equipment (22)

- A light vehicle was elevated on a Molnar four post vehicle hoist and then the front of the vehicle raised a further 400mm on a hydraulic jacking beam. The beam detached from the hoist ramp support rails and fell to the floor causing the front of the vehicle to drop onto the hoist ramps.
- The boom point sheaves tore off a BE1370 dragline boom and fell onto the stockpile while it was dumping. The ropes fell next to the cab.
- A one tonne stonedust bag fell from its supporting eyebolt above a hopper when a worker twisted the bag to reposition it. The worker's arm was caught between the bag and the mesh on top of the hopper.
- A Terex RH 120 excavator lost traction as it trammed up the loading ramp of a Bosich float and slid about 2m to the right.
- A 120m length of 1m diameter modular polyethylene ladderway fell 10m to the bottom of an escape raise as it was being lowered into position when the sheave assembly failed.
- A section of 250mm diameter poly pipe containing concentrate slurry fell onto a walkway when two pipe supports failed.
- An Hitachi EX3500 excavator was manoeuvring on a 6m bench when one track went over the side of the bench. The operator was able to lower the bucket and stabilise the excavator.
- An operator reversed the rear of his Cat 740 articulated dump truck up and onto a stockpile. When he raised the body it rolled onto its side.
- The operator exited the cab of a Cat 2900 loader and went under the raised and unsupported bucket to clean the lights.

#### Fall of Ground (4)

- A roof fall in an intersection of an underground coal mine followed an inrush of water through the roadways and already fractured roof strata.
- A 25m long section of rib slumped in an underground coal mine roadway.

- About 300kg of rock fell from the back of a drive where a cablebolting rig had been working.
- Four tonnes of rock fell from the back of an intersection.

#### Mechanical (15)

- While coupling a new rod on the drill string of a UDR 1000 surface drill rig the driller's offside used his right foot to align the rods. The jaw clamp closed on his foot injuring his toes.
- An Omega 16 tonne forklift was removing a stack of poly pipe from a semi trailer when the forklift over balanced lifting the rear steer wheels off the ground. The stack of pipes fell off the forks and the rear wheels fell back to the ground.
- A supervisor and two fitters were about to commence chassis repairs on a Cat 773 water truck when the position 5 tyre ruptured. The three workers were struck by dirt thrown up by the resultant air blast.
- A catastrophic tyre failure occurred on the trailer of a Cat 777 bottom dump truck while the operator was checking the pressures of the tyres on the other side of the truck.
- The inner wall of the position 6 tyre on a Cat 789 dump truck ruptured while the truck was parked up during a crib break. A piece of rubber from the tyre was thrown 15m from the failure point.
- The position 5 tyre on a Komatsu HD1500 dump truck started to smoke and caught alight while it was being monitored for a possible tread separation. An exclusion zone was established and the fire monitored from a safe distance.
- A worker was hammering a steel sleeve into a housing when a steel splinter flew from the hammer and lodged in his forearm.

#### Vehicle – Collision (20)

- A Cat D10 dozer reversed into a Cat 789 dump truck which was waiting on the dump tip head.
- Two fitters stood between two Cat 793 dump trucks while attempting to jump start on of them.
- A light vehicle travelled in the wrong direction along a one way haul road until it met a dump truck. Both vehicles took evasive action to avoid a collision.
- A tradesman boarded a Cat 793C dump truck to diagnose a fault and asked the operator to drive the truck as part of the diagnosis. The truck moved off from its park, turned right and drove over the tray of the tradesman's light vehicle.
- A water truck collided with a light vehicle while passing on a gravel road.

- The tyres of a Komatsu HD1500 dump truck clipped the edge of the blade of a Cat 16H grader as the truck was overtaking the grader which was working on the haulroad.
- After the temporary closure of a main decline had been announced over Pitram a Manitou forklift parked just off the decline with the basket raised so that the workers could access the back of the decline. Shortly after two trucks came down the decline and passed under the elevated basket.

### Vehicle – Loss of Control (35)

- While travelling on a haul road both B double trailers attached to a C510 Kenworth truck rolled over.
- The operator of a Cat 797B dump truck lost control of the truck while travelling down a recently watered ramp and spun around 180 degrees.
- A light vehicle which had been left parked on a dragline access ramp rolled down the ramp and hit the dragline tub.
- An Eimco 130 loader fitted with a lift basket and carrying four workers slid down a 1:4 decline about 60m before stopping.
- A Cat 773 jumbo service truck lost traction on a watered ramp, slid and rolled over.
- The tub on a Cat 740 articulated dump truck overturned when the truck lost traction while turning a sweeping bend at the bottom of a ramp.
- A Cat 785 dump truck tipped on its side after skidding while travelling down a watered ramp.
- A loaded Cat 777 dump truck lost control, while turning a corner at a recently watered haulroad intersection and ran into the bund.
- While a fitter was in the cab of a Cat 773 water cart conducting brake testing the truck has rolled back approximately 17m and contacted a light vehicle.
- A loaded Cat 777C was travelling down a ramp to a dump when it went too wide on a corner, drove up onto the safety bund and rolled onto its side.
- As a Cat 785C dump truck was travelling down a spot watered ramp the truck slid when the retarder was applied and the wheels locked up.

### Explosion (12)

- During maintenance the flameproof integrity of a driftrunner was found to have been breached at the joint on the exhaust pipe between the scrubber tank and the crossover purifier.
- As a shuttle car approached the bootend the cable outrigger struck the rib crushing the power cable and causing an arc flash.
- The power cable conductors on a continuous were exposed when the cable was jammed between the steps and frame of the miner.
- After a blast five workers were found to be in an office block within the 1000m exclusion zone.
- When molten slag was tipped on wet ground in a smelter a steam explosion occurred sending slag fragments flying into the vicinity of workers.

### Fire (48)

- While a fitter was soldering a wire near the injectors of a dozer fuel soaked material has ignited causing a flash which singed his beard.
- A boilermaker was brazing the sump of an Hitachi 30 tonne excavator when residual oil in the sump ignited and caused a flare. The boilermaker suffered burns to his hands chin, lip and right ear.
- When an engine cylinder failed on a Cat D10 dozer oil hit the turbo and ignited.
- A fire occurred in the engine bay of a Drilltech D90K overburden drill after a hydraulic hose burst and sprayed oil on the exhaust.
- A fire started in a Komatsu PC1100 excavator engulfing the rear of the machine. The operator activated the on board fire suppression and evacuated the excavator. The water truck was used to finally extinguish the fire.
- A fire occurred on a Cat R1700 underground loader due to a crack in the fuel tank.
- A fire occurred on a Cat AD40 water truck on an underground decline.
- A fire started around the bag spike in a xanthate mixing tank as a result of an accumulation of residual xanthate.
- An isolation switch shorted out on a water pump causing sparks which ignited oil on the surface of the filter hoses of the pump.
- Fire occurred in the control panel of a Palfinger crane fitted to an overburden drill rig.

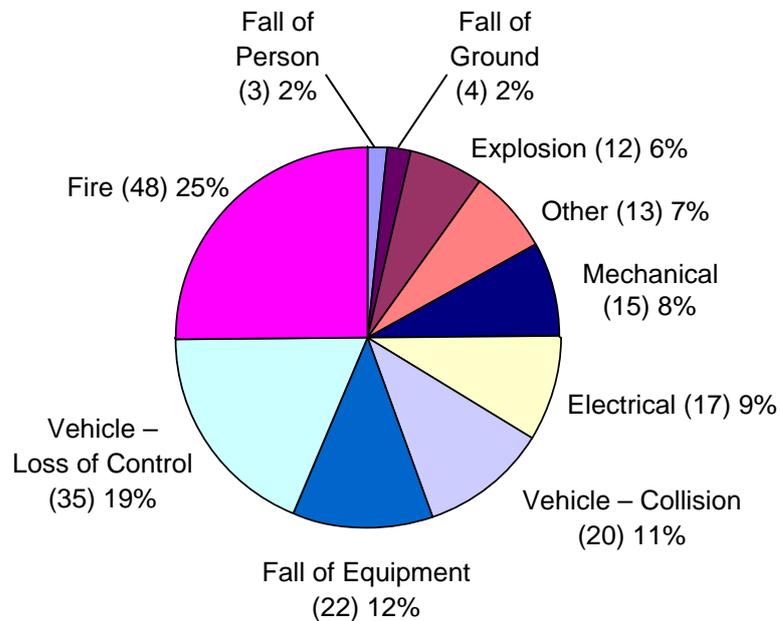
### Electrical (17)

- A flashover occurred within a cubicle of a dragline substation. The 66kV electrical protection operated to clear the fault.
- A boilermaker received an electric shock while setting up a profile cutter in the tray of a haul truck when he sat on the tray and touched the cutter. At the time his clothes and gloves were saturated with perspiration.
- A star picket was found to have been driven into a 415V cable after a worker removed the star picket and heard a popping sound as a fault was created.
- During routine maintenance of a conveyor motor three of four mounting bolts for the junction box were found sheared which exposed the conductors to the motor.
- 11kV cabling associated with a control transformer of a transportable substation failed causing an explosion and flashover to occur.
- The door of an 11kV cubicle was blown open after an arc flash was generated from the insulator tracking due to moisture. The earth fault propagated into a phase to phase fault before the electrical protection cleared the fault.
- A worker received an electric shock when he used a switch on a control box to activate a slurry tank dump valve. Slurry had covered and also entered the control box.

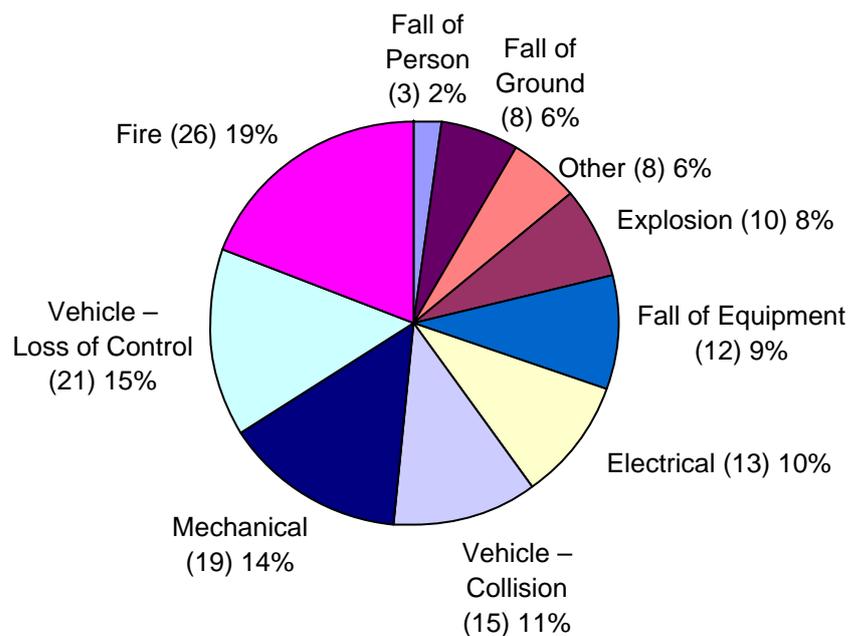
**Other (13)**

- A level 4 fume event occurred after an overburden shot. The fume breached the exclusion zone and blast guards were moved to avoid exposure.
- During a routine inspection of the surface above a longwall block for mapping of subsidence a sink hole was found containing water. The longwall crew were withdrawn to a place of safety.

- Prolonged heavy rain resulted in approximately 1.1MI of water entered an underground mine via the portal and vent raise and accumulated at the bottom of the decline.
- A continuous miner unexpectedly intersected a surface to seam borehole.



**Figure 1: February 2011 Incidents (total 189) by Category**



**Figure 2: Twelve Month Rolling Average (135 incidents/month) by Category**

# Serious accidents and high potential incidents

## Mining and quarrying

### Compilation of reports for March 2011

#### Fall of Person (3)

- An employee slipped on a wet driveway, striking his head on the concrete. He suffered a head wound requiring eight stitches.
- A two deck shaft sinking stage carrying four workers was being lowered in a shaft when one side of the stage caught on formwork. The stage dropped approximately 200 mm when it released from the hang-up.

#### Fall of Equipment (16)

- A 30 tonne excavator which was parked 15-20m back from the crest of a highwall fell into the pit when a section of the highwall failed.
- A load being lifted by a crane dropped 300 mm when the anchor pin for the lift rope on the crane hook fell out.
- A Cat 789 rear dump truck slid along the edge of a dump after about 50m of the edge of the dump slumped away.
- The position 5&6 tyres of a Cat 789C ended up on top of the bund at a dump when it was reversing in to tip.
- While loading a Komatsu WA470 loader onto a trailer, it slipped sideways off the deck.
- An operator, clearing a blockage in a cement silo chute, had partially removed an inspection plate when about 10 tonne of cement unexpectedly dropped.
- A 130 metre length of 315mm diameter poly dewatering line fell from a pit wall and onto the haul road.
- A worker was in an IT basket attached to a Volvo 120 loader when there was a loss of hydraulic pressure and the basket fell to the floor.
- While reversing during an overburden dozer push a Cat D11T dozer slid off a ridge of material and down a 6m embankment before rolling onto its side.

#### Fall of Ground (8)

- A significant volume of material in a faulted section of a highwall slumped onto a ramp.
- While a Komatsu 930E rear dump truck was being loaded, rock rilled from the face damaging the truck's tray and building up against the rear tyres.
- The operator of a continuous miner suffered a broken ankle when a piece coal fell from the rib and struck the driver's side platform.
- While bolting and meshing a development heading a drill jumbo offside was struck on the hand by

rock which fell from between the unsupported mesh overlap as he was changing a drill bit.

#### Mechanical (21)

- A worker was using an impact gun when the 25mm diameter air hose blew off the minsup fitting. An incorrect hose clamp had been used to attach the hose to the fitting.
- While performing a chain tension check on a longwall armoured face conveyor a hydraulic line ruptured and sprayed the fitter with oil.
- While operating a bolting rig on a continuous miner the operator had two of his fingers trapped in the returning feed carriage when he placed his right hand on the drill to steady himself as he reached to remove a drill steel from the drill pot. One finger was fractured.
- When a Hitachi EX5500 excavator boom arch hose failed the escaping hydraulic oil smashed the cab window covering the operator in shards of broken glass and hydraulic oil.
- A new front tyre on a Bell 20 tonne articulated dump truck burst while returning from the ROM at 20 kph.
- The steel header attached to a 110 mm diameter poly compressed air line was propelled 7m across a drive when the header separated from the poly compression fitting at the victaulic coupling. The compressed air line then whipped around the drive before lodging against the back.
- While inflating a grader tyre the split rim flange was thrown 6m and the remote tyre inflation tool 65m. The locking ring had not been fitted.
- Two employees were maintaining the weigher on a conveyor which hadn't been isolated when the siren sounded and the conveyor started.
- A worker cut a deep gash across the back of his left hand while using a Stanley knife to enlarge an attachment hole on a piece of conveyor skirting. He required surgery to re-connect two severed tendons.
- A worker dislocated his elbow while cleaning a return idler when his arm was drawn into the nip point between the return idler and the conveyor belt.
- A development mine worker sustained bruising to his neck and the left side of his upper body when he was sucked into a fibreglass vent tube which he was installing.

#### Vehicle – Collision (11)

- A dozer operator who was completing a final side cut on a dump reversed behind a dump truck which he thought was leaving the tip head. The truck

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

was actually reversing to tip its load and contacted the dozer damaging the ROPs, handrail, two way aerial and lights.

- While conducting loading operations an MPU truck bent its auger when it reversed into another MPU which was also on the shot.
- While a light vehicle was stopped at a stop sign at the entry to a haul road it was rear ended by a light vehicle.
- A light vehicle which was driving up an incline pulled into a vehicle by-pass and drove into the booms of a parked jumbo drill rig.
- A Cat D10 dozer was cleaning the dig face as arranged with the P&H 4100 shovel operator when the operator slewed the bucket and struck the dozer.

### Vehicle – Loss of Control (21)

- A Cat 793C dump truck slid about 35m on its first trip down a ramp after a shower of rain.
- A Cat 793D dump truck lost control and slid sideways on a recently watered ramp.
- A Cat 16H grader slid sideways about 50m as it descended ramp coming to rest at 90° to the direction of travel against the safety berm.
- A Cat 789 truck lost the Pos 3 wheel while travelling on haul road when the studs sheared.
- The service brakes on a Cat 12G grader failed after the pin came out of the brake linkage that connects the foot pedal to the brake unit. The operator applied the park brake to stop the grader.
- An Asia ZL50G-I loader was travelling down a hill on a sealed road when the operator lost control of it and drove through the main access gate to the site. The loader came to rest on the public access road.
- A prime mover and trailer loaded with copper ingots rolled over at an intersection while turning off a haul road.
- A semi trailer carting cement rolled over while turning at the top of a hill to go on to a haul road.

### Explosion (12)

- A shuttle car slid into the rib while turning jamming its power cable between the car's outrigger and the rib causing an arc flash.
- A shuttle car driver struck the rib corner with the cable outrigger whilst negotiating a corner crushing the power cable and exposing the conductors.
- While carrying out external inspections of longwall face equipment the shift electrician found the tailgate motor's terminal box lid had a flame path gap of 0.7mm.
- While scraping an access road a grader uncovered a live booster and length of detonating cord.

### Fire (28)

- A small fire occurred in the turbo area of a Cat D11 dozer.
- Oil from a broken rocker cover on a Cat D10 dozer dripped onto an unlagged turbo causing a small fire to start in the engine bay which was extinguished using the on board fire suppression system.

- When a fuel line rubbed through on Cat D10 dozer, the spray of fuel soaked the exhaust lagging and set it on fire. The on board fire suppression system and a hand held extinguisher were used to put it out.
- A fire broke out in the grid box of a Komatsu 630E dump truck.
- A fire occurred in the engine bay/pump room of an Hitachi EX3600 shovel.
- When a high pressure hydraulic return line burst on a Pantera 1100 drill rig oil sprayed onto the turbo causing a small fire.
- An MG set flash over caused a fire on a Marion 8200 dragline.
- A fire started on an underground Manitou forklift after an hydraulic hose burst and sprayed oil onto hot components. It was extinguished with a hand held fire extinguisher.
- Debris from grinding operations on a dragline bucket resulted initially in one acetylene bottle catching fire in a gas cylinder storage area. Subsequently a second acetylene bottle and two LPG gas cylinders also ignited. An exclusion zone was established and a hot zone maintained for 24 hours along with continuous cooling of the cylinders with water.
- Gas in a drill hole ignited as a driller withdraw a drill rod that had become bogged from a hole he was drilling through intrusion material overlying the coal seam.

### Electrical (21)

- During relocation of a dragline cable, the tractor operator closed the clamping arm onto the cable before the cable was engaged in the pulling frame resulting in open arcing of the cable and potential energisation of the tractor.
- A mechanical tradesperson was refitting a bolt to a pedestal bearing cover on an MG Set on a dragline. During the task, he inadvertently touched the slip rings on a synchronous motor and received an electric shock.
- An electrician received an electric shock while replacing a duct lid inside a switchboard. The electrician's arm came into contact with the neutral link that appears to have been energised to 30 Volts by a back feed from a UPS.
- A boilermaker was using a grinder in wet conditions when he suffered an electric shock.
- A boilermaker received an electric shock from the plug on a gas cutting machine.
- When a longwall pump motor was started after maintenance a load bang was heard and a flash was emanated from the non drive end of the motor.

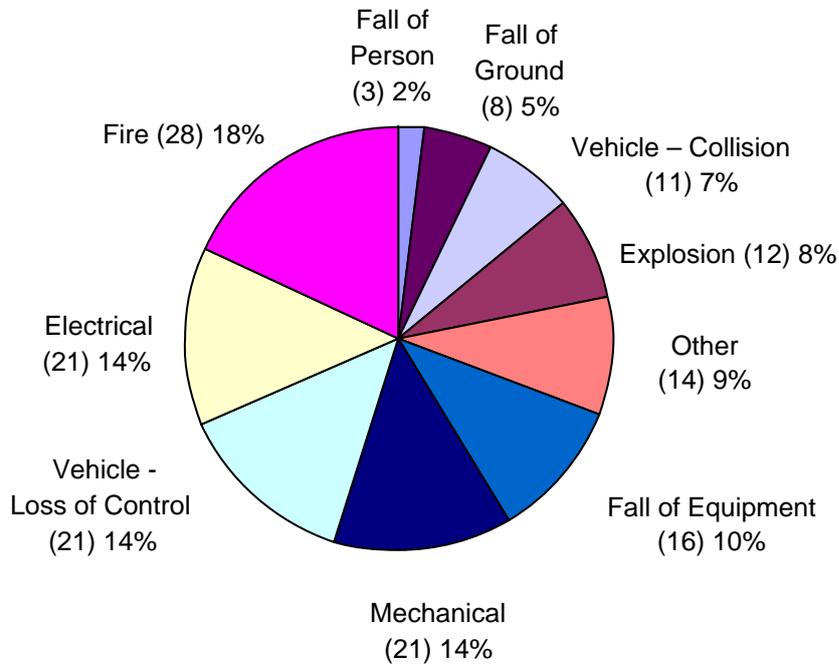
### Other (14)

- An opal miner died when he was engulfed and trapped by mullock that rilled from a backfilled shaft into the underground workings.
- Workers in a workshop were exposed to blasting fumes following a shot.
- A level 4 fume event occurred after an overburden shot. The fume breached the exclusion zone.

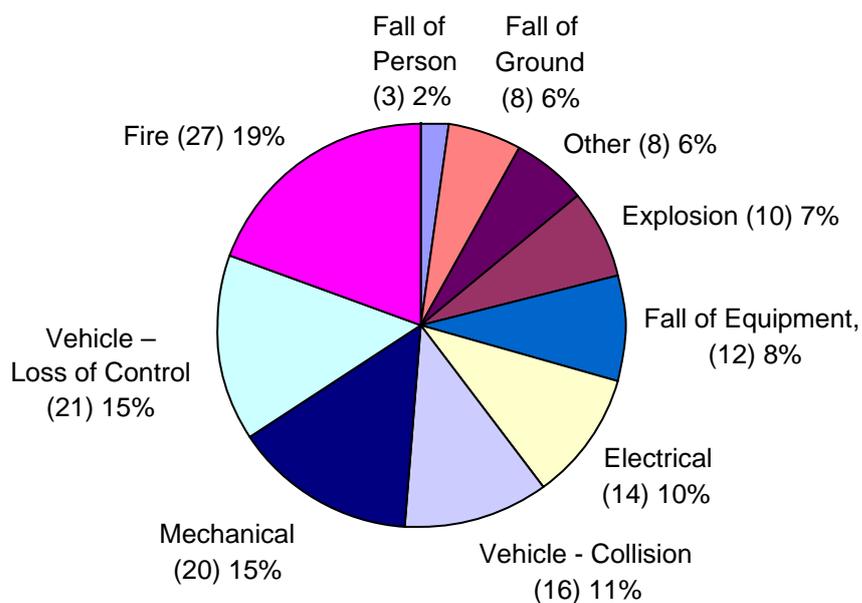
- A level 2 fume event occurred after an overburden shot. The fume breached the exclusion zone. Six workers were treated for suspected fume exposure.
- While accessing a pump via a pontoon, the pontoon toppled and the fitter fell into the water.
- Two workers who were checking a dewatering pump at the bottom of an unventilated decline reported that they felt short of breath. The

atmosphere in the decline was tested and found to be O<sub>2</sub> deficient.

- A worker received burns to his face and arms from radiator coolant when the radiator cap on a Cat 992G loader flew off unexpectedly.
- A worker was splashed with acid when the pump housing cracked after a discharge valve was opened.



**Figure 1: March 2011 Incidents (total 155) by Category**



**Figure 2: Twelve Month Rolling Average (138 incidents/month) by Category**

# Serious accidents and high potential incidents

## Mining and quarrying

### Compilation of reports for April 2011

#### Fall of Person (1)

- The operator of a Komatsu 630E dump truck was knocked unconscious when he fell while climbing down the access stairs. He sustained a fractured vertebra in his neck.

#### Fall of Equipment/Material (19)

- A worker damaged two vertebrae in his lower back when he was struck by mud which fell from the underside of an Hitachi EX3600 excavator which he was helping to clean.
- While assembling a new Cat 797 dump truck a boilermaker tack welded a rock deflector into position while it was being supported by a crane. When the crane released the deflector it fell striking and fracturing the boilermaker's left foot.
- In a process plant a 600mm long section of channel iron dropped through a handrail and fell ten metres onto the driveway below.
- A dozer was pushing coal on a product stockpile to clear a bridged feeder. While reversing the coal bridge slumped and the dozer slid into the slumping coal above the feeder.
- A Cat D11 dozer was cleaning spoil off the top of a coal bench when the fractured coal gave way. The dozer slid down the face of the bench and rolled over, landing back on its tracks. The operator was knocked unconscious and suffered head and pelvic injuries.
- As a Cat 793 dump truck reversed to dump its load the pos 5 & 6 wheels impacted the safety bund. The material slumped from under the wheels causing the rear of the truck to subside into the dump.
- After discharging its load on a dump a Cat 651 scraper went over the edge of the four meter dump access ramp which was about four meters high in that location and rolled onto its roof.
- A surface drill rig rolled onto its side while being trammed down a steep ramp with the boom elevated and drill mast raised.
- In a process plant a kibble loaded with 5t of grinding media fell 8m to the ground after the crane rope came off the pulley on the overhead crane attachment.
- While a DR253 drill rig was drilling a hole, a guide plate fell eight metres from the rod carousel striking the operator's cabin before landing on the drill deck.
- During conveyor maintenance in a process plant a troughing idler was dislodged while being replaced and fell 30m to the ground.

- A rock rolled down the face of a dump, bounced over the rill at the toe and struck a Hitachi EH4500 dump truck which was dumping its load.

#### Fall of Ground (12)

- A rock fell from the top of a development mining face while one miner was charging the backholes from a charge basket and a second miner was on the ground uncovering the lifters. The miner on the ground was struck by the rock which deflected off the side of the basket. She sustained a head injury and severe arm injury which resulted in her right arm being amputated below the elbow.
- A worker was knocked over on a longwall when coal spalled from the face and hit him in the back.
- Rock from a high wall failure struck a maintenance vehicle which was parked 10m from the toe while the fitter was working on a an excavator parked nearby.

#### Mechanical (17)

- A primary crusher feeder exciter, weighing approximately 3t, detached from its mounting and fell 2.5 m onto the walkway below.
- A fitter was investigating why a dozer would not shut down. He was removing the hose from the shutdown cylinder when his arm came in contact with the radiator fan blade. He required stitches to a cut on his arm.
- A longwall shearer operator was struck on the foot by a lump of coal flicked up by the shearer drum while he was cutting into the tailgate.
- A worker's shirt sleeve became entangled in a drill steel when he tried to reseat it into the spinning chuck of a bolting rig on a continuous miner. Two of his fingers were dislocated.
- While using a slide sledge hammer to fit bushes into a dozer push arm bore the fitter holding the adaptor tool got the tip of a finger crushed between the adaptor tool and hammer. The fingertip had to be amputated.
- On an underground LM 75 diamond drill rig the offsider was hit and knocked off the drill platform by the rod he was about to add to the drill string. It swung round and struck him when it became trapped between the traveller and the frame of the rig.
- While extending a 150mm diameter compressed air line a worker started to remove a gate valve while the line was charged. The valve blew off the end of the manifold narrowly missing the worker.
- An exploration driller's offsider caught his gloved hand in the drop chain of a Schramm drill rig while running casing down a borehole.

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

- After maintenance the main gate belt had been stopped and started a few times prior to the mobile boot end unexpectedly moving about 2m outbye.
- When a drag rope on a BE1350 dragline broke strands of wire up to 1m in length were found lying in the house.

### Vehicle – Collision (29)

- An electrical apprentice was assigned to fix the radio in a Komatsu WA1200 loader which was stopped outside a workshop. He parked his light vehicle behind the loader and left the vehicle without making positive communication with the operator. In the process of driving the loader into the service bay the loader operator reversed without realising the light vehicle was behind and ran over the bonnet of the vehicle.
- A loader collided with an unoccupied light vehicle, parked about 15m away, as it reversed and turned after dumping a load of material in a hopper.
- A Nissan patrol wagon drove onto a dump and parked next to a Toyota troop carrier and to the left rear side of a Kenworth C501 service truck which was refuelling a dozer. While the two light vehicle drivers were discussing operations the refuelling was completed and the service truck reversed. It collided with the Nissan and pushed it into the Toyota.
- A Cat 789 dump truck was being refuelled at the Go Line at the same time as a hot seat changeover. The new operator sounded the horn and began to pull away when the serviceman realised and released the fuel hose from the truck.
- A dump truck operator called up the dozer on a tip head to advise that he was going to drive behind the dozer. When the dozer stopped the truck operator assumed that it was OK to proceed. The dozer then reversed into the truck.
- A dump truck operator called up a loader operator as he approached the crushing plant to be loaded. The loader operator stopped. The truck driver assumed that it was to let him reverse into position. As he reversed the loader moved forward and collided with the truck.
- A Cat 844 rubber tyred dozer was cleaning the dump face when a Cat 793C dump truck reversed into position without telling the dozer operator. The dozer reversed into pos 3 tyre of the truck.
- While a dozer was cleaning up the dig face, a grader drove behind the dozer. The dozer backed into the grader.
- A Cat 777 dump truck contacted a stationary Cat D10T dozer whilst reversing to the tiphead.
- While an empty Cat 785 dump truck was coming down the ramp from an overburden dump, the tail of the truck contacted the offside mirror of another loaded Cat 785 dump truck going up the ramp.
- A dump truck operator stopped on the circuit when he encountered a grader which was grading in the opposite direction. Without receiving positive radio communication the dump truck operator proceeded to pass the grader on the narrow side between the grader and the edge of the haul road. During this manoeuvre the truck made contact with the grader.

- A light vehicle entered an intersection without looking and failed to give way to a Cat 777F dump truck. Both vehicles took evasive action to avoid a collision.
- Two Terex MT7300 dump trucks collided at a shovel face when the loaded truck stopped unexpectedly as it departed while the empty truck was reversing into position. The operator of the loaded truck was unable to warn the other operator because the latter had his radio switched to the workshop channel.

### Vehicle – Loss of Control (27)

- A Sterling semi trailer truck loaded with concentrate rolled over onto the driver's side while negotiating a left hand downhill corner. The truck cab was significantly damaged. The driver sustained a laceration to his forehead.
- The prime mover and first trailer of a Kenworth 508 road train rolled onto its side as it turned at an intersection.
- While driving through a corner a light vehicle operator leaned down to pick up his radio mike, steered into the centre dividing berm and rolled the vehicle.
- A Cat 793D dump truck failed to take a left hand turn on a haul road and mounted the centre bund.
- A Cat 793 dump truck skidded and spun on a recently graded and watered ramp.
- A Cat 789B dump truck skidded on to the wrong side of the haul road after hitting a recently watered patch of road.
- The operator of a John Deere tractor was slashing grass on the top of a contour bank, when the tractor slid off the top and into a drain.
- The left hand rear wheel came off a light vehicle as it was travelling at about 50kph along an access road.
- A light vehicle rolled approximately 20m after being parked on an incline.
- A Moxi articulated dump truck rolled away after being parked and lodged underneath an overhead conveyor.
- A Komatsu 630E dump truck had its wheels in a spoon drain at the workshop while an electrician and supervisor were load testing a wheel motor. During the test the truck moved forward about 2m and then subsequently rolled back into the drain.
- A shotcrete unit tramping up a decline lost power. The operator turned the unit into the wall and applied the park brake.

### Explosion (9)

- A blast demarcation cone was moved to enable an excavator to dig within the area beneath a charged shot. On the following shift the next operator continued to dig within the demarcated area without shotfirer supervision and dug within 8m of a loaded blatshole.
- After the detonators and boosters had been laid out on a shot a grader was called onto the shot to grade an area. When the grader had finished one

detonator and booster were found pushed to the side.

- During charging activities it was noticed that a charged hole was glowing orange with visible gas emanating from the hole.
- While conducting a prestart check on a light vehicle a detonator was found unsecured on the dash.
- While inspecting an electrical enclosure on a longwall shearer a gap greater than 0.5mm in the flame path of the enclosure was identified.
- A cable on a shuttle car pulled apart after it failed to release from the shoe causing an arc flash.
- During fault finding on a shuttle car traction fault a flash was observed through the viewing window inside the main contactor enclosure. The fire self extinguished after a short time.

### Fire (33)

- A fire occurred in a process plant reagent mixing tank hopper after the reagent mixer had mistakenly put two bags of xanthate (SIBX) into a tank which was being used for mixing sodium metabisulphite (SMBS). He was clearing a blockage in the hopper grate above the tank with a steel rod when a spark from the rod against the chute ignited the gas that was created by the mixing of the two chemicals.
- A fire started in the engine bay of a Cat 793F dump truck after a turbo failed.
- A Cat 785 dump truck burst an "O" ring on the fuel line which caused a fire on the turbo. The driver used the onboard fire suppression to put the fire out.
- A fire started in the battery box of a Cat 793C dump truck after contact between the battery cover and terminals rubbed the insulation off the leads causing a short. The operator put the fire out with a hand held extinguisher.
- A fire occurred in a retarder box on a Komatsu 930E dump truck after it was parked.
- A DC retard contactor on a Komatsu 830E AC dump truck failed and generated sufficient heat to cause the external painted surface on the electrical panel to catch fire.
- While bedding in the brushes on a wheel motor on a Terex MT4400 the operator noticed flames coming from the electrical cabinet on the deck.
- A fire started on a Terex RH340 shovel when a leak in the main hydraulic line sprayed oil onto a hot surface. The fire was extinguished using hand held extinguishers.
- When the operator of a BE 8750 dragline entered the house he saw flames coming from the drag drum bearing. The bearing had failed and heated the grease. A hand held extinguisher was used to put out the fire.
- A flashover occurred in a drag generator on a Marion 8750 dragline causing a fire to start underneath the generator. The operator used a hand held extinguisher to put the fire out.
- While welding a cross member on service truck chassis spilt grease from an adjacent auto-lube system caught fire.

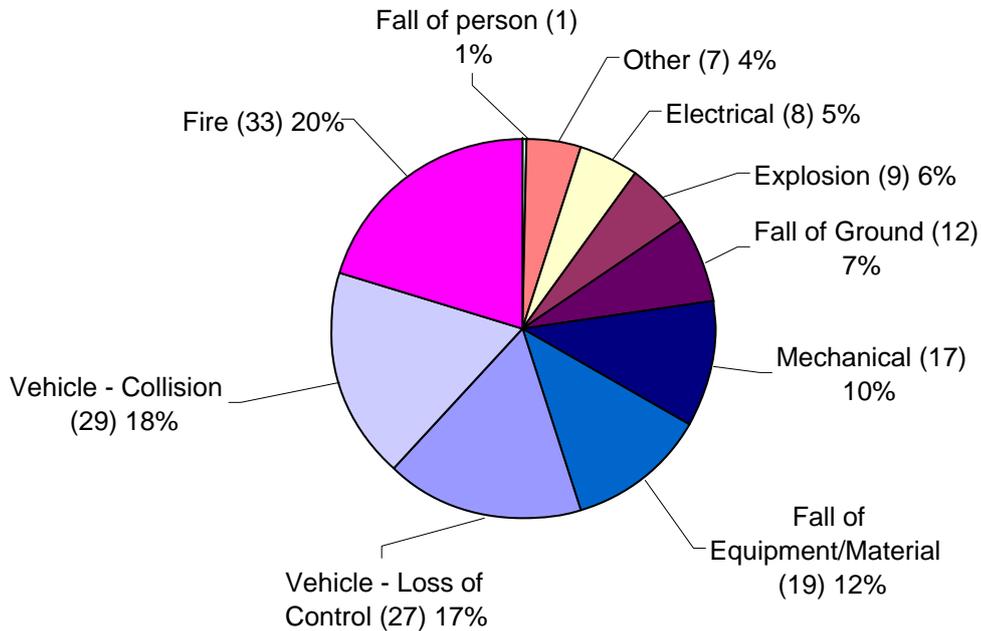
- When an injector fuel line failed in the engine bay of a production drill rig the fuel misted onto the turbo and started a fire. The auto fire suppression system initiated.
- A fire started between the seats of a light vehicle parked in an underground parking bay. It was not possible to extinguish the fire and the area was evacuated.

### Electrical (8)

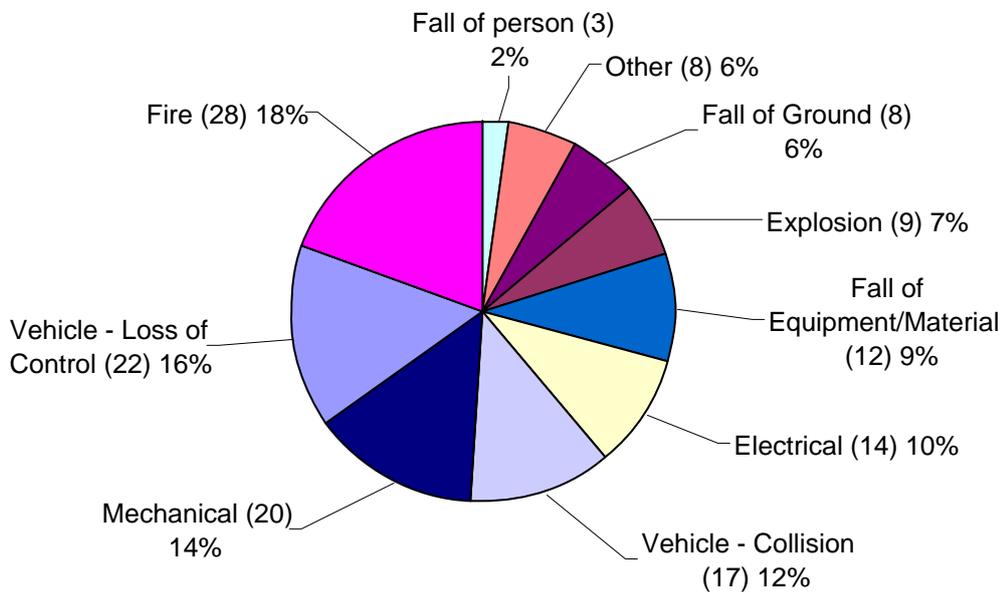
- A dozer was skimming the vegetation from the road surface when it dug up the mine's 240V PED cable tripping the system.
- An arc flash occurred while an electrician was removing a cover from a lighting and power distribution board.
- A steel fixer received an electric shock while moving some mesh into place. At the time welding was being carried out on the mesh to interlock into place. One of the two welding earthing clamps was not connected.

### Other (7)

- A fume cloud produced from a shot travelled beyond the 1km exclusion zone.
- A level 4 fume cloud was produced in an overburden blast at a coal mine. The fume cloud travelled about 8kms and passed over a nearby town.
- A steel elution vessel at a gold process plant failed at a pipe fitting allowing the high temperature contents to discharge under pressure.



**Figure 1: April 2011 Incidents (total 162) by Category**



**Figure 2: Twelve Month Rolling Average (142 incidents/month) by Category**

# Serious accidents and high potential incidents

## Mining and quarrying

### Compilation of reports for May 2011

#### Fall of Person (4)

- An operator was observed working adjacent to the edge of a stope without using fall arrest equipment.
- An operator was trying to relocate a mobile conveyor discharge tripper above a lime storage bin in a process plant. He fell through the opening in the floor and landed on the lime 3m below.

#### Fall of Equipment/Material (18)

- A five cubic metre rock tipped from a dump truck, rolled down the face of the dump and landed on the ramp below.
- A Cat 980 Loader reversed off a stockpile ramp and rolled onto its side.
- A Cat 793 dump truck reversed through the bund at the tip edge of a dump and slid 5m down the face ending sitting upright on its tray and rear wheels.
- One of the stands supporting a Komatsu 630E dump truck slipped out from underneath the truck.
- A B-double tip over axle trailer fell onto its side while discharging its load at a train load out stockpile.
- A drill rod detached from the drill head on a Fraste drill rig and fell down the hole.
- In the process of removing the counter-weight tail section of a Kawazaki bucket wheel reclaimer, the tail which was being supported by a 140t crane, dropped 300mm when one of the stay pins was removed from the mast.
- A link of a corroded chain on a process plant 2t gantry hoist broke while the hoist was starting to raise a kibble loaded with grinding balls.
- While charging uphole production holes, rocks started falling in the stope. After the IT operator reversed out of the drive the stope rilled closing off the brow of the stope.
- A survey to determine the shape and size of an orepass was being carried out when a loader operator on an upper level tipped a bucket of ore down the pass.
- A 300t mud rush occurred from an underground truck loading chute.

#### Fall of Ground (11)

- A section of a coal bench slipped about 0.75m towards the pit floor causing the wheels of a Cat 785 dump truck to sink into the coal and an O&K 170 excavator to shift slightly.
- During nightshift a large rock fell from half way up the highwall and landed close to a dozer working within the 15m exclusion zone.

- A dozer was reversing from a push close to and parallel to a bench when a rock fell from the face about 2m above the dozer cabin and struck the dozer.
- While a Cat D8 dozer was cleaning up a ramp the adjacent bench wall failed. Rocks hit the dozer cabin breaking the glass in the windows.
- A wedge failure measuring 10m wide x 5m deep x 5m high occurred in the face below a catch bench.
- Approximately 30 tonnes of rock fell onto the boom of a jumbo while carrying out ground support rehabilitation.

#### Mechanical (12)

- A structural failure in one of the lift arms of a Sandvik ED7 load haul dump unit resulted in the bucket falling to the ground.
- While servicing an Eimco EJC130 load haul dump unit the articulation bar was incorrectly secured onto the boom locking lugs. Later when the hydraulic ram was activated to lower the boom the retaining chain and collar from the locking pin snapped and flew across the workshop striking a fitter standing 3m away. The fitter sustained a shoulder injury.
- When the shearer on a longwall stopped several shields continued to advance.
- When a hydraulic hose on the boom of a Hitachi EX3600 excavator failed high pressure oil jetted from the hose and contacted the operator's cab fracturing one of the window panels.
- A 54mm diameter winder rope was nearly unwound off the service winch back onto the winder drum after a rope cut when the tail end of the rope slipped out of the clamp securing it to the service winch. The unrestrained tail swung around and struck a worker standing next to the winch. He sustained bruising to his head and shoulders.
- When an operator put down a high pressure water hose after cleaning under a crusher, the on/off valve on the hose triggered and the hose swung around blasting the operator in the eye. He was taken to hospital for treatment for a damaged retina.
- The cutting blade on a 125mm angle grinder broke while cutting a 5mm thick steel plate and injured a worker. He sustained a laceration to his foot.
- While running casing on a Schramm 450 truck mounted drill rig the driller's offside fingers pinched his finger in the sheave wheel.

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

**Vehicle – Collision (25)**

- A Volvo FM400 service truck reversed into an unoccupied light vehicle in a workshop area.
- A Komatsu WA900 loader reversed into a grader, as it drove behind. The loader operator had not acknowledged the grader operator's 'positive communication' radio call before the grader proceeded.
- A Cat 789B dump truck reversed after dumping at the stockpile and collided with a Cat 16M Grader working in the stock pile area.
- A grader was entering the park up area at the end of shift when two trucks attempted to pass the grader without establishing 'positive communications'.
- After initial radio communication with a Cat D10 dozer operator, a Terex MT3700 dump truck reversed to the dumping position. The truck driver then decided to re-position his truck. As he did this the dozer also reversed and was behind the truck as it came back, resulting in a collision.
- A bus travelling along a haulroad towards an intersection had to stop unexpectedly when a Cat 793 entered the intersection. The two vehicles ended up 20m apart.
- The bucket of a Hitachi EX5500 excavator contacted a Cat D10 dozer after it moved in to clean-up where a truck had just been loaded. The dozer operator mistook the OK given by the excavator operator to the OCE to enter the area as permission for the dozer to proceed.
- While loading a Komatsu 630 dump truck, the bucket of the Cat 992 loader came into contact with the head-board of the truck.
- A collision occurred between two light vehicles at an intersection when the driver of one of the vehicles was distracted.
- While driving a light vehicle on an exploration site access track at about 30kph the driver cut a corner and collided with a stump hidden in the grass. The passenger struck his head on the windscreen.

**Vehicle – Loss of Control (23)**

- While travelling down a drift an operator lost control of his light vehicle when it skidded on a wet section of pavement. The vehicle slid into the wall of the drift and rolled over. The operator sustained a strain injury to his left foot.
- After rain the operator of a Terex MT3300 dump truck was driving down a ramp when he lost control of the truck and skidded on the wrong side of the road for about 30m. He finally regained control and drove through an intersection. Two other trucks approaching the intersection stopped before the intersection to avoid a collision.
- A truck slid for approximately 40 metres on the wet section of the road and finished up across the road.
- A Cat 793 dump truck was coming down a ramp as rain started to fall. The truck slid at 45 degrees for 6m before stopping.
- A scraper slid on a recently watered section of haulroad as it rounded a corner. The operator lowered the bowl to steady the machine as it was

sliding towards the side of the road. The scraper rolled onto its side when the bowl contacted the ground.

- While driving through a bend in a road a light vehicle driver drove into an embankment and rolled onto its side.
- The operator of a Cat 785 dump truck was updating his load sheet as he pulled away from a digger and ran into the windrow.
- The operator of an underground Volvo 40t truck sustained a head injury requiring seven stitches and 3 cracked ribs when his truck rolled back about 15m and struck the wall of a decline.
- A Mitsubishi Canter supply truck lost braking going down a decline and hit the sidewall before making contact with a light vehicle coming up the decline.
- A Cat 793 dump truck operator had a micro sleep as he entered a dump and veered into the onside bund where the truck came to rest.
- The driver of a loaded Komatsu 630E dump truck fell asleep as he drove along the haulroad. He woke up and was able to brake heavily before colliding with the rippers on the rear of a Cat 16H grader which was trimming the haulroad.
- A dozer was reversing on a train loadout stockpile when it slid down the side of the stockpile and came to rest against an elevated conveyor support leg.

**Explosion (10)**

- Flyrock struck a dragline house which was located 40m outside the equipment exclusion zone.
- An electrician started an auxiliary fan without permission of the ERZ controller in charge of the area.
- Three mesh block ventilation seals in an underground coal mine were found to have not been constructed to the design standard.
- A shuttle car cable caught on a cable hanger on the corner of a roadway and then became trapped under the car. When the operator stopped the cab squashed the cable against the ground causing an arc flash.
- A methane drainage hose parted under pressure allowing methane to vent into the intake air of a development panel. Power to the section tripped when a 2% methane reading was recorded.

**Fire (35)**

- Diesel leaking from a cracked steel fuel line on the engine of a Cat D9T dozer caused a fire when the diesel vaporised and ignited. A hand held extinguisher was used to put the fire out.
- When a hydraulic hose on the boom of a Bucyrus RH340 hydraulic shovel failed, oil sprayed back over the machine and caught fire when it contacted the hot turbo and exhaust. The onboard fire suppression system was manually activated and extinguished the fire.
- A fire started on a Coldwell drill after oil from a leaking gasket on the oil feed line pooled on the heat shield and ignited. A hand held extinguisher was used to put the fire out.

- The oil feed line to the turbo of an O&K RH170 excavator ruptured causing a fire which was extinguished by the onboard fire suppression system.
- A fire started in the engine bay of a UDR1200 truck mounted drill rig as the truck was being driven from the exploration area. Use of a handheld fire extinguisher failed to put the fire out. The vehicle was extensively damaged and the surrounding grass caught fire.
- A short in the cables of the propel motors on a BE 1370 dragline resulted in a fire which filled the power control room with smoke initiating a manual shutdown of the dragline and auto activation of the fire suppression system.
- The activation of the onboard fire suppression system on a Cat 16H grader was insufficient to extinguish a fire in the grader's engine bay. The ERT was called to put the fire out.
- A fire started in the engine bay of an explosives MMU truck when oil leaked onto the turbocharger as the truck was travelling along a road. The operator stopped the truck and put the fire out with a hand held extinguisher.
- The onboard fire suppression system was used to extinguish a fire which started in the engine bay of a Normet concrete agitator.
- One of two 50kW electric powered air compressors housed in a shed caught fire and was destroyed. A water truck had to be used to extinguish the fire after two hand held fire extinguishers were ineffective due to limited access within the shed to get at the fire.
- A boilermaker was gouging a crack in the revolving frame of a P&H 4100XPB shovel when molten metal fell onto the track frame and ignited some grease. The spotter used a hand held extinguisher to put the fire out.

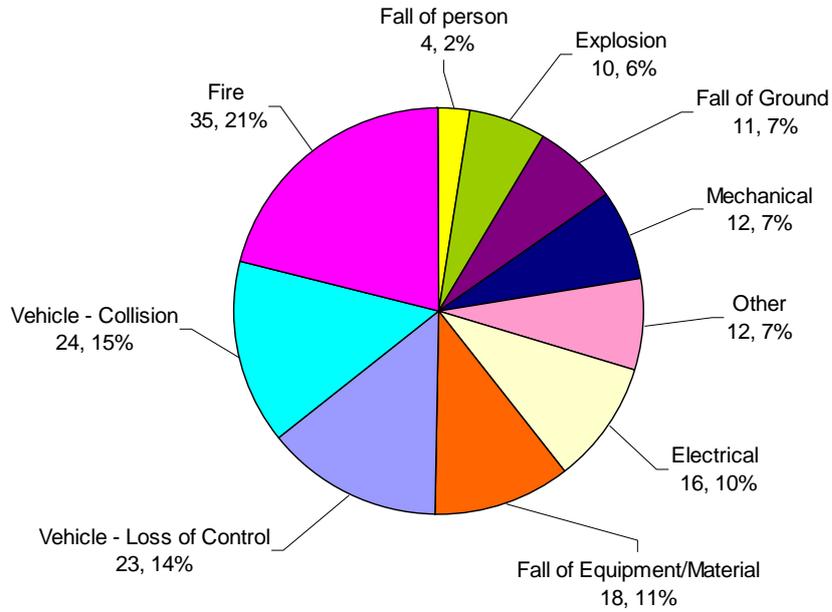
### Electrical (16)

- A dozer hit a power pole over while working on a ramp. The powerlines remained intact.
- A Komatsu WA500 loader reversed into a powerpole while loading from a stockpile causing the power lines to swing and arc which tripped the power.
- An electrician was fault finding on a circuit breaker for a conveyor. While accessing the PLC limit switches he received a 55V electric shock.
- A worker received an electric shock while using a damaged umbilical controller to operate a 100t press. Moisture had entered the controller which enabled tracking to occur between the live parts and the pushbutton.
- After a Komatsu electric drive truck was put into reverse, the electrics tripped on a fault. The fault was reset by the operator. When reverse was again selected, the operator received an electric shock from a metallic part of the steering wheel.
- A Cat 773B left the stockpile area with its tray raised after tipping its load. The operator pressed the button to lower the tray. The truck travelled 700m before driving under high voltage power lines with the tray in a partially elevated position.

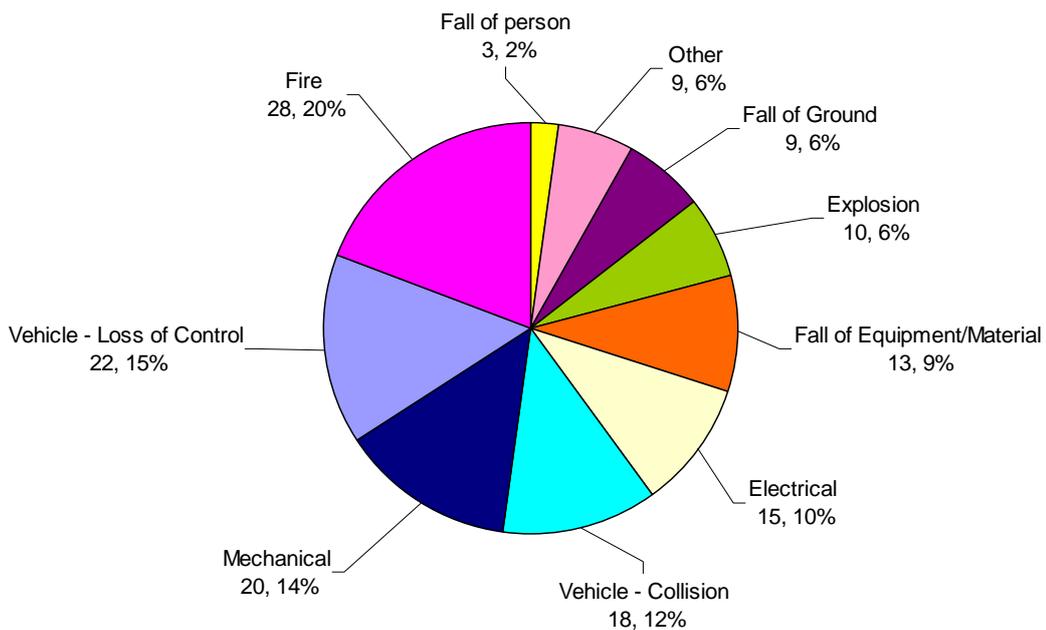
- The boom of an excavator that was been driven to the washdown area beside a workshop made contact with an overhead powerline.
- A boilermaker received an electric shock from the handpiece of an arc welder. He had wet gloves and the insulated head of the handpiece was damaged.
- During wet weather a worker who was repairing wear plates in a crusher chute received an electric shock from a Lincoln 500 welder when he struck an arc. A tarp had been erected over the job to keep the rain out.
- A driller's offsider received an electric shock while welding bore casing when he struck an arc. The equipment had been wet as a result of recent rain but was wiped dry.

### Other (12)

- Level 3 fumes from a shot breached the 1km exclusion zone.
- Level 4 fumes from a pre-strip blast breached the 1km exclusion zone.
- After a shot, two workers were found to have been in their trucks within the exclusion zone which had been extended to allow for a probable fume event.
- Level 3 fumes from a shot breached the exclusion zone and drifted across the mine's boundary. The diluted fumes drifted over an adjacent mine.
- While withdrawing a 6m drill steel from a hole during bolting operations in a coal development panel a blowout of gas occurred from the hole causing the bolter operator to feel dizzy and his offsider to feel nauseous. Subsequent analysis of the gas in the hole found it contained 16% Oxygen and 20% methane.



**Figure 1: May 2011 Incidents (total 165) by Category**



**Figure 2: Twelve Month Rolling Average (147 incidents/month) by Category**

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

# Serious accidents and high potential incidents

## Mining and quarrying

### Compilation of reports for June 2011

#### Fall of Person (4)

- A worker was completing prestart checks on an Eimco and was in the process of filling the scrubber tank when he stepped onto the 25mm water hose causing him to slip. The worker suffered a spiral fracture to the left tibia and ankle ligament damage.
- The operator of a CAT 740 Dump truck was dismantling the machine and fell from the bottom step. The operator suffered a broken elbow and bruising to the hip.

#### Fall of Equipment/Material (10)

- A 25 Tonne Franna crane was being used to lower a walkway to the ground when the rope snapped. The walkway, hook and sheaves fell to the ground in the demarcated area.
- A workers hand was crushed by the propel gear cover and he suffered three fractured fingers.
- The head rope on a cage was being replaced utilising the old rope and a winch. Speed control of the winch was momentarily lost by the operator.
- Contractors were in the process of removing a pressure grouting hose from a vertical hole when the reel being used to guide the hose came off the supporting stand. The bar utilised to support the reel hit a worker on his back.

#### Fall of Ground (10)

- A dozer was being used to clean out a 10m deep coal trench below a dragline. Part of the edge of the trench fell onto the dozer causing minor damage to the machine.
- In an underground coal mine, the crew were driving through faulted ground when a slab of stone fell onto the head of a worker then slid sideways pushing the worker against the bolting control guard.
- A rock fell 10m from near the top of a ladder rise in an underground metalliferous mine and slid down the outside of the ladder cage damaging the cage. There was nobody in the area at the time.
- A rock rolled down an embankment and struck a worker on the knee while he was laying drainage pipe at the foot of the embankment beside the access road.
- A CAT 972 loader was loading dust from a stockpile when the pile collapsed onto the bucket. This caused the rear of the machine to lift off the ground.

#### Mechanical (11)

- A lighting plant was being towed to a new location when one of the stabilising legs came loose. When the leg touched the ground, it broke off and was flung onto the roof of the towing vehicle.
- At the completion of a maintenance day on a Marion 8050 dragline, a tradesperson went to close the rear doors when one of the doors started to lean toward the tradesman and then fell onto the MG set. The welds on the hinges were of poor quality with insufficient penetration of the weld.
- The rear universal joint on a Coal Tram 10 loader failed and the associated drive shaft pierced the floor of the operator's cabin.
- During maintenance on a dragline, the bucket paid out approximately 15m unexpectedly when half of the drag brakes were released.
- A worker opened a valve on a longwall roof support which supplied high pressure fluid through an unrestrained and open ended hose. The hose whipped around striking the worker. The worker suffered bruising, fractured finger and fluid injection into open wounds.

#### Vehicle – Collision (21)

- A grader was working on a back access road to a mine and contacted an energised dragline cable causing a short circuit fault.
- Two CAT 789C trucks collided at a tip head. One truck had stopped and was about to reverse to complete dumping his load when the second truck drove onto the tip head and made contact with the first truck.
- While driving an underground man transport with crew on board to the workshop to refuel the driver was temporarily blinded by the glare of the sun and collided with the rear of a stationary LHD parked adjacent to the workshop.
- A fitter parked his light vehicle against a CAT 777 to make repairs to the truck. The fitter moved the 777 forward colliding with his light vehicle.
- After pulling up at a stop sign to turn right at an intersection the operator of a Hitachi 4000 rear dump truck checked the road on his right and then paused to adjust his seatbelt. When he drove forward a Cat 785C dump truck coming from the right had to take evasive action and swerved to avoid colliding with the Hitachi truck.

### Vehicle – Loss of Control (33)

- A CAT 785C was travelling around a left hand corner when the truck hit a recently watered section of road causing the rear wheels to slide out. The truck slid for 75m.
- A Bucyrus MT4400 was experiencing propulsion issues and was parked on a ramp with the wheels pointing up the ramp. The operator got off the truck to isolate it when the truck rolled backwards down the ramp.
- The operator of a CAT 789 rear dump truck drove onto a circuit that was closed due to wet weather. The truck skidded along the road for 35m.
- A Driftrunner was parked in a cut-through with the park brake applied. As the operator went to chock the wheels, the vehicle rolled 3m and contacted a supply pod. A review of brake testing history revealed that the performance of the park brake had significantly degraded over time.
- The operator of a rear dump truck was reaching behind the seat for some paper towel and veered to the left side of the road.
- Control of a 797B was lost when the operator steered onto the wet line on the road whilst retarding the truck. The truck slid into the bund wall on the edge of the road.
- A dozer was moving from the pit floor onto a 4m high bench when it travelled over a large rock causing the dozer to roll onto its side.
- The rear wheels of a small dump truck sank in soft fill whilst tipping causing the truck to roll onto its side.
- The operator alighted from a Moxy Truck on the top of a rise with the engine left running. The truck rolled approximately 30m downhill hitting a fuel trailer and coming to rest against a drill rig.

### Explosion (19)

- Power was able to be applied to face equipment in an underground coal mine without the auxiliary fan running.
- A LHD was operating in an underground coal mine with one headlight missing.
- A small steel identification tag was found caught in the flamepath of a continuous miner.

### Fire (36)

- A recently overhauled excavator was extensively damaged by a fire.
- A CAT D10T dozer was parked in the workshop when smoke was observed coming from the battery junction box.
- The operator boarded an EX23 Hitachi 5000 Excavator and activated the button to fold up the stairs. The stairs failed to lock in the folded position due to the electric motor catching fire.

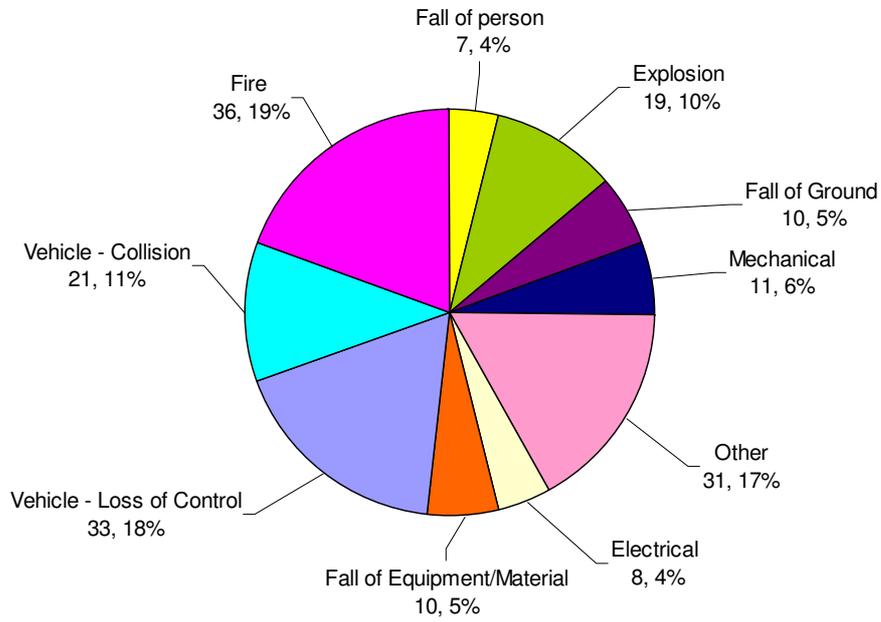
- The driver of a light vehicle noticed a burning smell and pulled over to investigate. Another vehicle pulled up behind and noticed smoke coming from wiring associated with the vehicle loading crane.
- A fire occurred on an O&K Excavator during a maintenance shift as a result of degreaser being applied to the turbo.
- A fire broke out on a lighting plant due to a battery short circuit.
- A small fire started due to ignition of oil and grease on an overheating disc brake of a rear dump truck.

### Electrical (8)

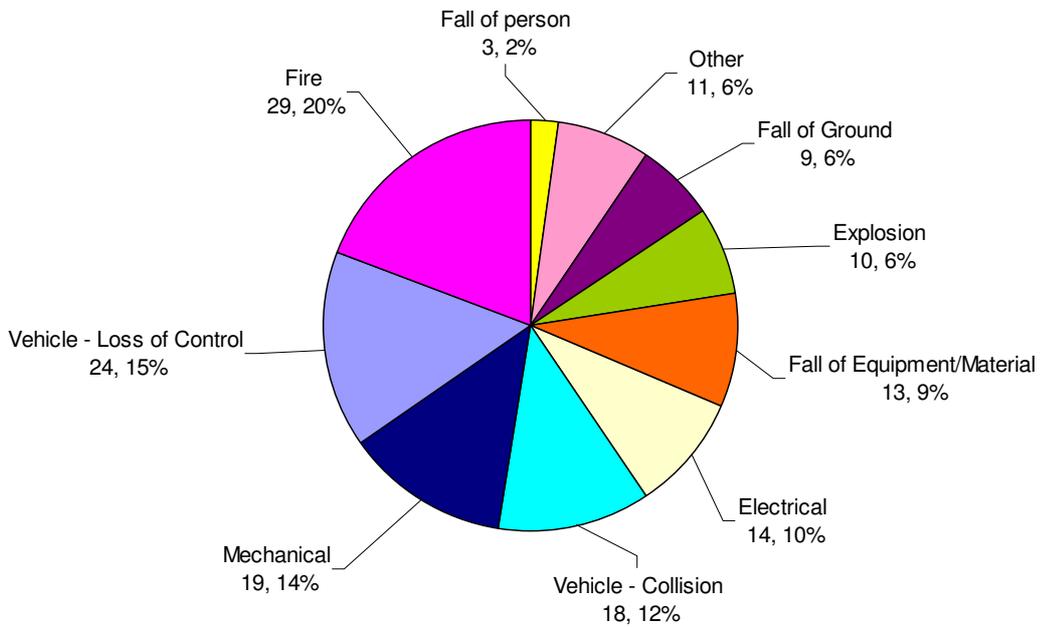
- During core drilling of concrete, the worker received an electric shock. At the same time, the assistant who was holding the inline RCD protective device received a shock.
- The operator of a dragline requested that the bucket be lowered but the bucket continued to be lifted (hoisted).
- An operator was in the basket of an IT changing out the delivery hose on an 8kW submersible pump when he felt a shock from the chain supporting the pump.

### Other (31)

- A level 4 fume event occurred after a shot was slept for over 3 weeks. The 2 km exclusion zone was not breached.
- A dozer operator that was working on a dump became ill after inhaling fumes from spontaneous combustion.
- After the dragline operator emptied the bucket of its load, a shudder was felt on the machine. The left hand shoe was observed to be moving in a forward direction and only stopped when the shoe was on the ground.
- A shot was in the process of being loaded when contractors entered the demarcated area of the shot attempting to manoeuvre a drill rig onto the adjacent drill pattern. The rig trammed across an area where there were baited and loaded holes.
- PJB driver sustained a fractured radius of the right arm when the second of two air doors closed pinching his arm against the side of the vehicle. The driver hesitated clearing the area having reacted to a noise from behind the vehicle
- A drillers offsider incurred a needle stick injury. The used needle was amongst the core trays that were packed by the supplier.
- A new worker to site was found to be in close proximity to a 9 meter void. The worker was not aware of the site procedures for working in this area.
- A worker gashed his hand whilst he was trimming the edge of a conveyor belt with a Stanley knife. He required surgery to repair a severed tendon in his right hand.



**Figure 1: June 2011 Incidents (total 186) by Category**



**Figure 2: Twelve Month Rolling Average (151 incidents/month) by Category**

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

# Serious accidents and high potential incidents

## Mining and quarrying

### Compilation of reports for July 2011

#### Fall of Person (1)

- A maintenance worker was using a temporary platform to access a thickener turntable in a process plant. When he jumped back down onto the platform it failed and he fell about 6m to the thickener floor. He sustained soft tissue injuries and abrasions.

#### Fall of Equipment/Material (12)

- A Cat D11 dozer was cleaning up on a bench when it dropped about 2m into a hole associated with old underground workings.
- During loading operations a Hitachi EX3600 excavator sank into the bench causing the excavator bucket to strike the tray of the Cat 789 dump truck.
- While an elevated work platform was being raised during dragline maintenance it contacted a light fitting on the dragline house. The fitting fell to the ground close to other workers.
- The sheave wheel on an 8m high drill tower on a truck mounted exploration drill rig fell onto the drilling platform.
- While tramming a Sandvik Solo production drill rig the mounting bolts of the rotation turntable sheared resulting in the mast and carousel falling back against the cabin.
- A feed beam cradle pin failed on a Sandvik drill jumbo boom while positioning the booms resulting in the feed beam falling to the ground.

#### Fall of Ground (8)

- Approximately 300t of rock fell from the back onto the booms of a drill jumbo which was barring down to install ground support.
- A rockfall occurred in a supported intersection after a continuous miner made three separate plunges off the intersection without installation of additional ground support.
- An excavator operator noticed material dribbling from a dragline spoil low wall. The truck circuit was stopped. Shortly after, the low wall slumped about 10m across the pit floor over a distance of about 250m.
- About 1500t of material fell unexpectedly from a bench face close to where an excavator was working.

#### Mechanical (5)

- A dozer belly pan scissor hoist would not retract after the pan had been detached from under a Cat

- D10 dozer. The fitter re-attached the pan and then tried to lower the hoist sufficiently to get it from under the dozer so he could repair the fault. While adjusting a plug on one of the hoist's hydraulic cylinders the plug came loose and the hoist retracted rapidly trapping the fitter's right arm in the scissors. He sustained a severe crush injury.
- While fault finding on a jumbo drill rig a fitter disconnected a blocked pressurised hydraulic hose. The blockage released and high pressure oil struck his right hand lacerating his thumb and ring finger. The cuts were treated in hospital and checked for possible oil injection.
- A worker started a conveyor and then used a shovel in a gap where a guard was missing to dislodge a piece of skirting rubber. The shovel became entangled in the conveyor, broke and hit the worker on the hand.

#### Vehicle – Collision (24)

- A mini bus entered a stockpile area to pick up operators for a crib break without getting clearance from the loader operator.
- Before establishing positive communications with a Cat D11 dozer operator on a dump tip head a Cat 785 dump truck operator started to reverse into position with the intention of dumping short. The dozer reversed at the same time and collided with the truck.
- As a Cat 773D service truck approached a Liebherr 996 shovel to refuel it the shovel slewed and the counterweight contacted the fuel tank on the truck.
- While a Komatsu PC450 excavator was loading a Hitachi AH400 dump truck the excavator continued to slew and the bucket struck the roof of the truck's cabin.
- The operators of a dump truck and water truck both contacted a dump dozer operator for permission to enter the dump. The water truck operator mistakenly thought the positive response he heard was for him. Unaware of the water truck's proximity the dozer operator reversed and collided with the water truck.

#### Vehicle – Loss of Control (29)

- A dump truck stopped 5m past a stop sign at a T-intersection at the bottom of a ramp. Another truck with right of way coming from the left managed to stop and avoided a collision.
- A major structural failure of the steering mechanism on a Komatsu water truck resulted in the truck swerving suddenly and colliding with the safety berm.

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

- While turning into position on a dump the right hand steer wheel stub axle on a Terex MT 3700 dump truck collapsed resulting in the wheel detaching.
- An explosives mobile manufacturing truck rolled onto its side on a rain wet ramp.
- A Cat 789 dump truck slid for 100m on a wet section of road while overtaking a grader and ended up spinning through 180 degrees.
- A Komatsu 930E dump truck lost traction and skidded for 80m down a recently watered ramp.
- A loaded Cat 785 water truck spun through 180 degree and skidded for 26m backwards down an over-watered ramp after the operator had left the spray controls on when he thought he had turned them off.
- A light vehicle rolled onto its side after the driver lost control of the vehicle while driving along a haul road.
- The driver of a Nissan Patrol Wagon carrying four passengers lost control of the vehicle and rolled it on its side.
- A dump truck operator fell asleep while driving his loaded truck and collided with a light pole.
- The operator of a Cat 793 dump truck fell asleep while driving along the haul road and veered into the safety berm.
- While descending a ramp the operator of a Ford Louisville 8000 service truck tried to slow the truck using the service brakes. The front brakes locked up but the rear brakes didn't work. The driver managed to stop the truck using the front brakes.
- A light vehicle that had been left parked on a slope rolled forward and over the edge of a bench falling 17m to the bench below.
- A parked Canter fuel truck rolled back 30m in an underground drive before striking a fan starter.

### Explosion (24)

- Methane ignited at the top of a cased borehole while a worker was using an electric rattle gun to tighten bolts on a flange between risers connected to a submersible pump. The pump was being lowered from the surface into water above the coal seam.
- A small quantity of methane ignited at the lowered main gate drum of a longwall shearer.
- Methane ignited at the collar of a rockbolt hole while tensioning the nut on the bolt.
- A coal mine was evacuated after a TARP 4 gas reading was recorded in the longwall tailgate.
- A localised NERZ gas monitoring system, previously placed in by-pass mode following a boundary change, was not re-activated until the day after an activity commenced in the area that required use of the system.
- After a shuttle car had completed loading behind a continuous miner the operator turned to drive outbye to unload and collided with the rib crushing the miner cable causing an arc flash and the power to trip.
- While turning a corner a Joy shuttle car out-rigger made contact with the rib damaging the power

cable sheath and exposing the conductor. The power tripped.

- While being reset for a second time a main trunk conveyor 1000V cable tripped again with a loud bang and arc flash. The cable appeared to have been squashed by a vehicle against the roof.
- An operator was cleaning a blocked slag launder in a smelter blast furnace when the slag reacted with the water creating a steam explosion. He received abrasions to his head and neck and minor slag burns to his back.

### Fire (43)

- A fire started in the engine compartment of a drill rig after a hydraulic hose ruptured spraying oil on to the turbo and other hot surfaces. The operator activated the fire suppression system which put the fire out.
- A small fire started in the engine bay of a Cat 16M grader after a piston went through the engine block. The operator activated the fire suppression system to extinguish the fire.
- The operator of a Hitachi AH500D articulated dump truck noticed a fire in the engine bay and pulled to the side of the road. He was able to exit the truck before the fire spread to the cab. A water truck was used to put the fire out.
- A fire in the electrical harness of a Volvo A35C articulated truck was extinguished with a hand held extinguisher after the operator had stopped and isolated the battery and starter motor circuits.
- A fire occurred in the electrical cabinet of a Liebherr T282 dump truck.
- A grass fire occurred as an exploration drilling support truck was driving along a track. The fire which appears to have been started by fragments ejected from the truck's exhaust was put out with hand held extinguishers.
- A spark from oxy-acetylene cutting during a dragline rebuild ignited oil in an oil pan. The fire was put out using a hand-held extinguisher.
- A small fire occurred on a Cat 845 wheel dozer after oil leaked from the turbo housing onto the manifold mount and ignited.
- A fire started on the exhaust manifold of an underground Toro T11 loader after fuel leaked onto the manifold. The operator actuated the fire suppression system and also used a hand held extinguisher to put the fire out.
- An IT forklift caught fire in an underground metalliferous mine. The fire suppression was ineffective and the forklift was burnt out. Mine personnel were evacuated to safe areas.
- A boilermaker in a surface workshop noticed a flame coming from the regulator on the acetylene bottle he was using. He turned the tap off but could not extinguish the flame. The local QFRS were called. They put the fire out and cooled the bottle.
- While welding in a process plant hot slag fell to a lower level and started a small fire.

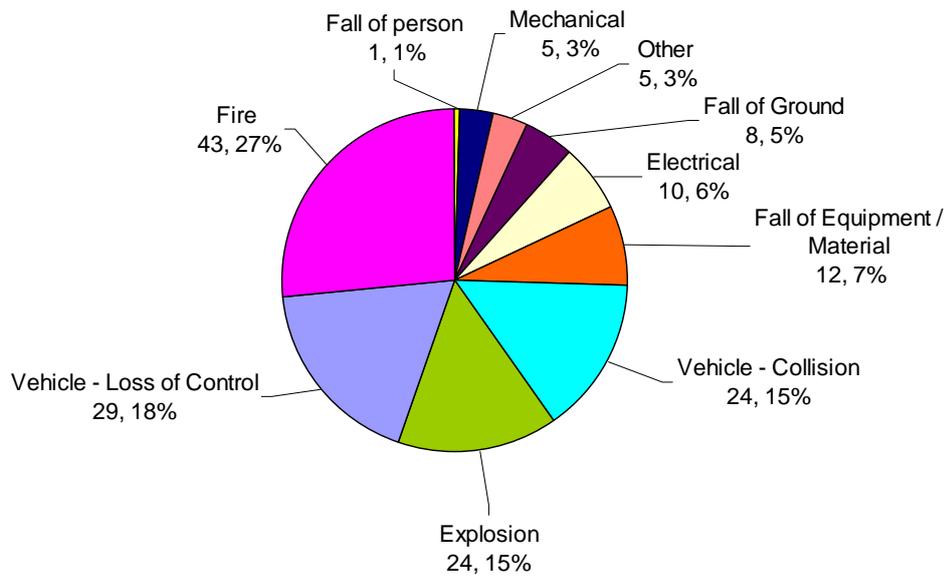
**Electrical (10)**

- An electrician, while removing redundant cables, partially cut through a live steel wired armoured 240V cable causing the earth leakage device to trip.
- A Cat 10 dozer reversed over a rope shovel's 11kV trailing cable tripping the power.
- A split in the outer sheath of a 415V extension lead resulted in an internal short circuit and an arc flash. The circuit breaker tripped.
- A cleaner received an electric shock from a light switch.
- A worker received an electric shock while pulling the cable from the cable reel on a shuttle car after it had shut down on an overspool fault.

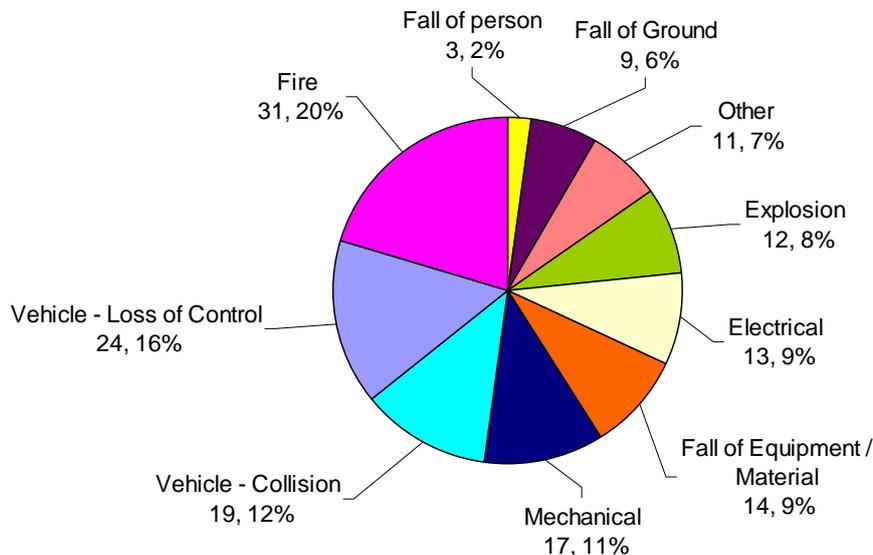
- A boilermaker received an electric shock from the handpiece of a Caddie welder while changing electrodes.
- An arc flash occurred in a distribution board when an electrician connected new equipment to the board without isolating.

**Other (5)**

- A delivery operator was washing down a concrete agitator with diluted hydrochloric acid when some of the acid splashed onto his face.
- A level 4 fume cloud was generated during a blast and breached the exclusion zone.



**Figure 1: July 2011 Incidents (total 161) by Category**



**Figure 2: Twelve Month Rolling Average (154 incidents/month) by Category**

# Serious accidents and high potential incidents

## Mining and quarrying

### Compilation of reports for August 2011

#### Fall of Person (2)

- A worker was climbing a ladder to inspect a valve located 2m off the ground when the ladder slipped from under him and he fell to the ground. He sustained a fractured elbow.

#### Fall of Equipment/Material (18)

- The off side rear wheel of a Cat 793 dump truck went through the windrow on a dump tip head when the driver reversed at an angle.
- An inrush of about 100m<sup>3</sup> of waste material from a previously backfilled vent rise occurred as a loader was driving past.
- A 700kg load of carbon in a 1t rated bulk bag was being lifted with a crane when the straps broke causing the load to fall a distance of 10 m. The bags being used for this activity were used feed lot bags purchased second hand.
- A Komatsu WA 480 stemming loader was operating close to the edge in a 12m high bench when one front wheel went past the edge.
- A Trades Assistant suffered a crush injury when a 1.2t mill wear plate he was removing slid and trapped his thigh against the side casing.
- A Komatsu 450LC excavator slid out and toppled off the bench falling 4m and coming to rest upside down with the operator still in the cabin. The excavator boom was at full reach and full depth at the time of the incident.
- While conducting tests on a gantry crane a piece of grid mesh flooring dislodged and fell 19m landing on the mill floor below.
- A drill operator was tramming the drill with the rod extender and reamer at the top of the tower when the reamer assembly became undone and fell on the drill deck missing the operator cabin.

#### Fall of Ground (6)

- A loader operator in the pit noticed a change in the strata of the end wall. All equipment and personnel were withdrawn from the pit and approximately fifteen minutes later the end wall failed.
- A rock fall occurred at an intersection at the bottom of an access drift resulting in the loss of one of the escapeways from the mine.
- While meshing a section of rib a large piece of rib coal fell over the top of the mesh and struck a worker on the foot. The rock cut the top of his foot and fractured the metatarsal bones.

#### Mechanical (18)

- While inflating a Komatsu 785 dump truck tyre, the wheel rim separated propelling the flange, bead seat band and lock ring some distance.
- When a salvage pack emulsion pump was started after maintenance the hose whipped splashing emulsion around at 150bar pressure. The fitter was medically examined for suspected injection injuries.
- During the recovery of a longwall roof support DA cylinder, the cylinder overbalanced jamming the worker's foot between the cylinder and the armoured face conveyor.
- While undoing a sensor for fault diagnosis on a Kress coal hauler, a fitter was exposed to hydraulic oil under pressure resulting in a non-injection type abrasion injury to his finger.
- While relocating a drill rig, a worker used a 2t chain block hooked onto a lifting eye that was screwed onto a roof bolt to lift the drill rig into position. When he flicked the lever to lower the load, the roof bolt failed at the shear pin area propelling the chain block into the worker's right shoulder.

#### Vehicle – Collision (16)

- When an Eimco loader fitted with a duckbill attachment was put into reverse it rolled forward first before the torque converter took up the pressure. It struck and crushed the ankle of a worker who was standing in front of the loader.
- Fitters had just repaired a Cat R2900 loader and were sitting in their light vehicle about to leave when the loader reversed into the front of their vehicle.
- A forklift was leaving a level when it collided with a light vehicle travelling down the decline. The forks pierced the passenger door low down and went under the chassis.
- A Cat D9 dozer which was pushing on a dump reversed into a Cat 789 dump truck as it was turning into position to dump its load.
- A driftrunner stopped at a crosscut and then reversed when the operator saw a loader approaching. The loader collided with the driftrunner. When the operator got out to see what he had hit, a second loader, carrying stonedusting equipment, drove up behind and collided with the first loader.

**Vehicle – Loss of Control (39)**

- A 16 tonne Hyster forklift carrying a cable reel rolled back 30m and collided with some equipment after the operator got off the forklift to secure a loose plug on the cable reel.
- A Cat 651 scraper veered off a haul road which was under construction and tipped over onto its side.
- The operator of a Bucyrus electric dump truck took 60m to stop, including passing through a stop sign, after the retarder failed to activate.
- Towards the end of nightshift a Cat 793 dump truck operator had a micro sleep and drove into the bund.
- The operator of an empty Cat 793 dump truck lost control of his truck and slid for 20m on section of road that had just been spot watered.
- A wheel assembly fell off a recently refurbished Cat 16H grader while it was travelling on a ramp.
- The operator of a Cat 777D water truck was watering a ramp. The truck was travelling down the ramp towards the dig face when the brakes failed to slow the truck which continued down the ramp and drove into and up the dig face. It ended up resting on its rear wheels and the back end of the water tank.
- A grader moved about 10m from its parked position on the go line at end of shift after it had been left to run down.
- After a shower of rain a Cat 789 dump truck slid for approx 30m as it drove down a ramp.
- An empty Cat 777D dump truck lost traction and skidded for about 15m before stopping at 90° across the ramp.
- A Cat 773 water truck operator had just watered a ramp and was coming back down when he lost traction and control near the bottom of the ramp. The vehicle came to a stop with the front wheels on top of the safety bund.

**Explosion (10)**

- During continuous miner operations a cracking noise was heard and sparks seen coming from the cable supplying the driver's side conveyor motor.
- An outburst event occurred at an underground coal mine as the continuous miner approached a surface to in-seam gas drainage hole. Coal was ejected from the face and methane levels exceeded 2.5%. All workers were withdrawn from the area.
- A shuttle car started to roll forward due to the grade. The operator was unable to apply the brakes because a piece of coal was jammed under the pedal. The shuttle car struck the rib and the outrigger on the car severed the cable.
- During routine maintenance, plastic caps were found over 5 x 110V lighting outlets on a longwall instead of flameproof caps.
- Carbon monoxide build up in excess of site limits in the goaf of a longwall triggered the withdrawal of workers from the mine.

**Fire (40)**

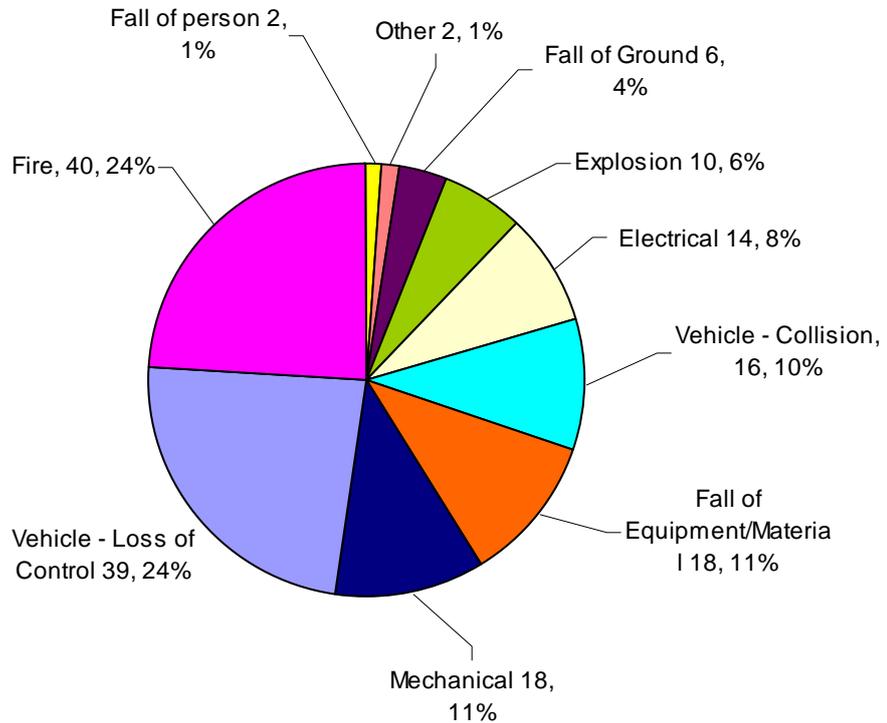
- A worker was burning rubbish when an aerosol can exploded resulting in burns to his face.
- Both wheel motors on a Komatsu 830E dump truck caught fire. The fires were extinguished by a water truck and a 300m exclusion zone established.
- During gouging and welding of cracks on the boom of a Liebherr R996 excavator a fire occurred causing significant damage. Hand held extinguishers didn't extinguish the fire and the water truck couldn't respond because the access wasn't trafficable after recent heavy rain.
- While breaking out drill rods a hydraulic hose ruptured on the head of a Reeddrill SKS drill rig spraying oil onto the hot engine, resulting in a small fire. The fire suppression was activated and extinguished the fire.
- A hydraulic hose burst spraying oil onto the top of the engine of a Liebherr 996 excavator. The oil ran down and ignited on the exhaust manifold. The fire was extinguished with on board suppression.
- A fire started in the engine bay of a Cat 16H grader after a short circuit at a battery terminal. The fire suppression was activated but failed to extinguish the fire due to some of the nozzles not firing. The fire was finally extinguished with hand held extinguishers.
- A Boilermaker was welding a handrail on a Liebherr 994-200 excavator when sparks ignited grease and coal dust around the tank and radiators in the counterweight area. The fire was extinguished with a hand held extinguisher.
- The fuel line on a Cat D10T dozer rubbed through and sprayed fuel onto the hot manifold resulting in a small fire. The dozer operator shut the machine down and extinguished the fire.
- After an overburden pre-split shot one of the holes was found to have caught fire. The area was barricaded and the hole was left to burn itself out.

**Electrical (14)**

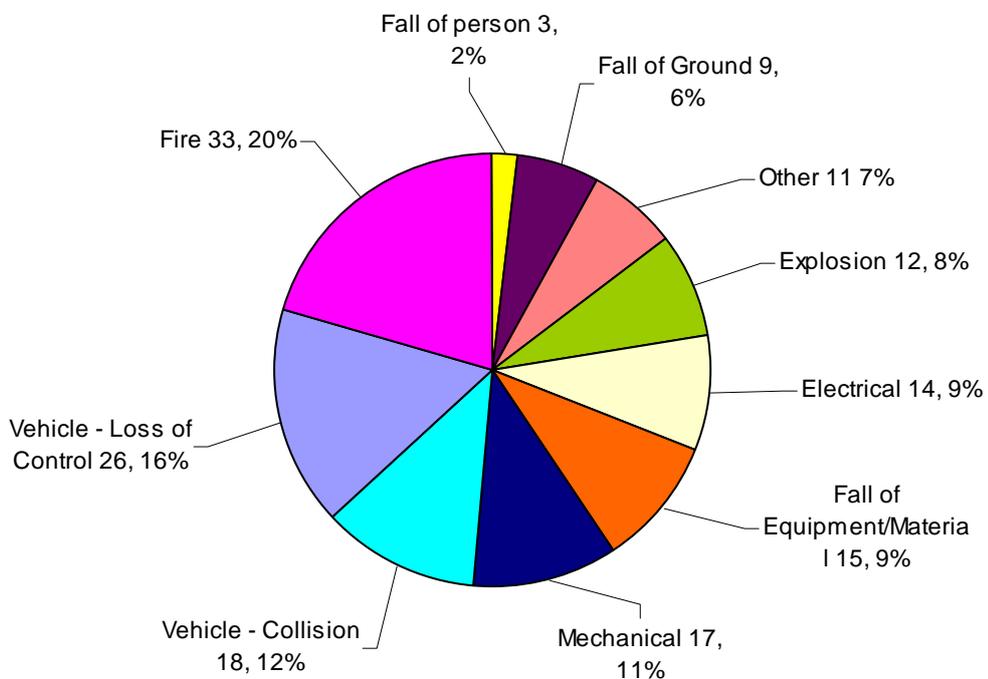
- While electricians were testing control cables inside a motor starter a control cable was removed from a terminal strip and during testing an electrician received an electric shock.
- A worker received an electric shock from an overhead crane pendant. The pendant was wet from rain.
- When water entered an MCC it shorted out the 415Volt busbar and caused an arc blast which dislodged the front door of the installation. The fire detection system operated and contained the damage to one cell.
- During a dragline shutdown, an electrical worker cut through a live lighting cable causing the power to trip.
- During inspection of a speed sensor located at the tail end of a conveyor the sensor was buried in coal, which was hosed away. The worker received an electric shock when placed his fingers between detecting tabs on the tail pulley and the face of the sensor.

**Other (2)**

- A level 3 fume event occurred after a blast. Fume travelled beyond the 1km exclusion zone and affected workers carrying out maintenance on a dragline a further 0.5km away.



**Figure 1: August 2011 Incidents (total 165) by Category**



**Figure 2: Twelve Month Rolling Average (158 incidents/month) by Category**

# Serious accidents and high potential incidents

## Mining and quarrying

### Compilation of reports for September 2011

#### Fall of Person (3)

- The operator of an Atlas Copco MT6020 truck fell off the truck while cleaning the back windscreen and possibly broke his ankle.

#### Fall of Equipment/Material (20)

- While operating the drill rig, the over shot and tube released striking the control panel and the offside on the jaw before dropping down the hole.
- A Franna 25t crane toppled over while lifting a load of 10 tonne pipes off a truck.
- While reversing to dump short the operator of a dump truck reversed too far. The tip edge failed as the tray was lifted sinking the rear wheels into the floor.
- While dismantling a monorail using a man basket attachment to an Eimco loader the monorail slipped from the man basket striking the arm of the operator in the cabin of the Eimco.
- A boilermaker was gouging the weld on the propel button block of a Dragline shoe when the 40kg block dislodged from its mounting fracturing two of his fingers.
- During a dual lift with two mobile cranes to move a dragline bucket, the lifting chains on the bucket had shifted causing a shock load on one of the cranes. The crane's fly jib dislodged and fell on the bucket.
- Boom guide sheaves of a P&H 9020E dragline fell during operation.
- At coal exploration drilling site, the driller's offside was guiding the inner tube and core from drill-hole collar to the core barrel stands with the top end attached to the winch rope when the winch brake suddenly failed causing the tube to drop to the ground pulling away the offside's left shoulder joint.

#### Fall of Ground (6)

- 1.8 tonnes of cured fibrecrrete and rock fell from the back between the last two rows of bolts as a fibrecrrete operator was preparing to scale the walls and back beyond the last row of bolts.
- An excavator operator noticed a few small rocks falling from the highwall. He called the OCE, when a few more rocks fell. The crew withdrew from the pit, and a section of highwall fell shortly after.

- An Hitachi EX5500 excavator was positioned about 15m from the toe of a the highwall and loading a dump truck when a section of the highwall failed. A small amount of rock struck the excavator
- Two workers were barring down off a scaffold stage in preparation for installation of ground support when a rockfall from the back fell onto and collapsed the stage. The workers fell to the ground with the stage and rocks. One worker sustained a deep laceration to the top of his right leg and two fractured vertebrae while the other was bruised and sore.

#### Mechanical (15)

- While workers were preparing to install a new panel in an underground coal mine, a 150mm diameter live compressed air line came apart at the valve clamp causing the workers' safety glasses to blow off and flying debris to enter their eyes.
- While fitting excavator bucket teeth using a hammer, a small piece of steel chipped away from the bucket tooth and lodged itself in a fitter's upper arm.
- A serviceman was changing a 110mm diameter compressed airline when he was struck in the head by a coupling that flew out due to stored energy in the airline.
- Loose shaft brattice sheeting contacted the hoist skip of the skip winder causing part of a sheet to fall onto to the roof of the man winder cage in the adjacent shaft.
- A driller received lacerations to his hand while using break-out stilsons to pull a string of rods when his hand became caught between the stilsons and the machinery guard around the drive shaft.
- An exploration crew were undoing a rod in the drill rig, when the stilson broke. The head of the stilson weighing 2kg dropped into the drill rig mast and ricocheted out narrowly missing a worker standing nearby.

#### Vehicle – Collision (36)

- As an Hitachi EX1800 shovel reversed the counterweight contacted a Cat16H grader which was cleaning up behind the shovel.
- Towards the end of nightshift a loaded dump truck entered an intersection into the path of an approaching empty dump truck. The empty truck

braked and skidded for about 100m before pulling up on the shoulder of the road

- While reversing into position on a dump on nightshift the position 5 tyre of a Cat 785 rear dump truck contacted the ripper boot of a dozer which was on the dump to spot trucks into position.
- The oncoming shift dozer operator parked his light vehicle close to his dozer. He then did a walk round check, started the dozer and drove into his vehicle.
- A light vehicle which was towing a trailer missed a turn-off and was reversing when a following vehicle ran into the trailer.
- A light vehicle operator failed to stop at a stop sign and pulled into the intersection as a Cat 793 dump truck approached from the right along the haul road. The dump truck operator sounded his horn and braked, pulling up about 7m from the light vehicle which also braked and then reversed into the side road.
- As two Cat 769D dump trucks, both travelling at about 45kph, passed each other on a bend on a narrow section of haul road their mirrors collided. The impact shattered the glass in the mirrors with a piece of glass impacting and breaking the rear window of one of the trucks.
- A grader reversed out onto the haul road into the path of an empty Cat 776 dump truck. The truck stopped 4m from the grader.

### Vehicle – Loss of Control (45)

- The operator of a Cat 777 dump truck lost control of his truck and drove through the centre bund of a haul road and ended up tipping over on the driver's side.
- Two workers were injured, one seriously, when their light vehicle rolled on a mine access road.
- A Cat EH3500 dump truck slid about 200m down an over-watered ramp.
- The operator of a Cat 785 dump truck had a micro sleep and ran into the safety bund.
- A Cat 789 dump truck was travelling down a ramp in low gear after a shower of rain when it slid as it neared the bottom of the ramp and ended up at 90° across the ramp.
- When the operator of a Cat 793 dump truck had a sneezing fit he lost control of his truck which ended up with the position 3 & 4 tyres on top of the centre dividing bund.
- A supervisor had a micro sleep while driving his light vehicle and veered into a berm rolling the vehicle onto its side. An in-vehicle camera recorded that the driver had nodded a number of times before the accident.
- While travelling down a ramp in an Hitachi 4000 dump truck a trainee operator applied the retarder a number of times but this did not slow the truck. At the bottom of the ramp he drove over an intersection dividing bund, before applying the service brake.
- As a light vehicle was travelling along an access road towards a creek crossing the driver lost concentration and applied the accelerator instead

of the brake. The vehicle left the road, hit a tree and rolled over.

- A Cat 930G loader, which was positioned across the slope of a ramp, toppled onto its side when it elevated its full bucket.
- A loaded Komatsu 785 dump truck was travelling up a ramp when it crossed onto the wrong side of road, came in contact with the low wall and tipped onto its side.
- A dump truck was tramping down a decline when it lost steering and ran into the wall.
- A rear wheel of a light vehicle came off while travelling along an access road after the wheel nuts popped off.

### Explosion (13)

- The auxiliary fan in an underground coal mine tripped off at the DCB. Power to the other face machinery did not trip as designed.
- An underground conveyor tripped on a fault. When the fault was reset and the conveyor restarted, the door for the rectifier section blew open and an arc flash was observed.
- A NERZ/ERZ boundary was established for drillers in an underground coalmine. When drilling was terminated, the boundary was decommissioned. Drilling recommenced but the boundary was not re-established, therefore the methane trip circuits were not reactivated.
- A diesel fitter was attempting to jump start a service truck by connecting the jumper leads across the battery. The battery exploded splashing battery acid into the fitter's eyes and pieces of the battery hit his face.
- An electrician was undertaking repairs to the brake solenoid of a continuous miner. He had not isolated the machine and the power was still on to the enclosure that he was working on which was also within an ERZ1 zone.

### Fire (32)

- A fire started in the engine bay of a Cat D10T dozer after oil sprayed from a burst hydraulic hose onto the hot exhaust.
- The drag motor on a dragline flashed over and caused a ball of hot molten metal to ignite a fire below the motor.
- An electrical short circuit in the engine compartment of a Cat D11 dozer ignited coal dust which had built-up in the vicinity. The on board fire suppression did not work so the fire was put out with hand held fire extinguishers.
- The failure of hose on a hydraulic hoist pump on a Cat 793 dump truck resulted in hydraulic oil discharging into the engine bay and igniting. When the operator noticed the fire he stopped the truck and exited via the secondary egress. The operator sustained a superficial burn to the back of his neck. A water truck extinguished the fire.

### Electrical (17)

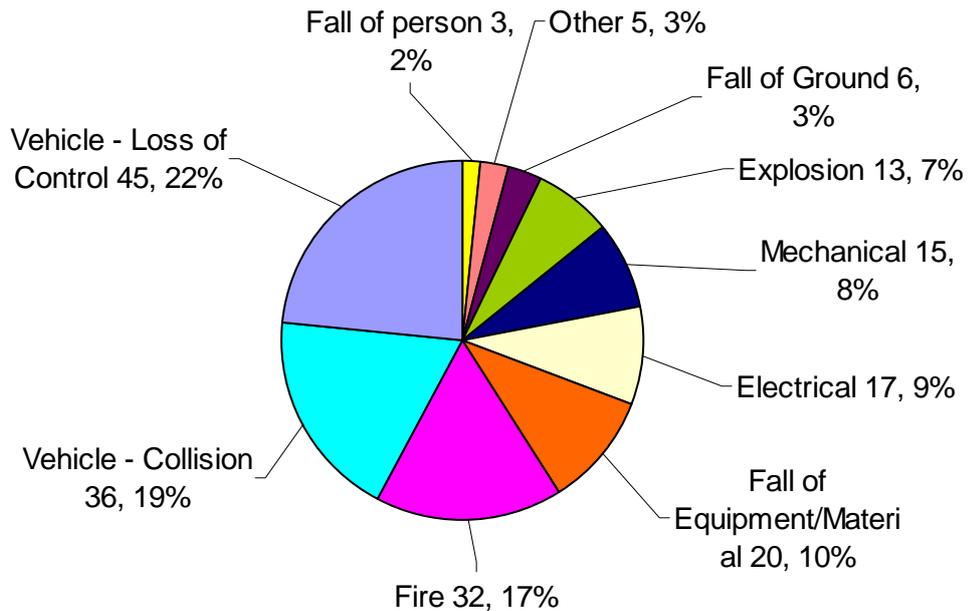
- An arc flash occurred after an overload trip was reset on a 7kW pump starter.

- An electrical apprentice received an electric shock while disconnecting a grinder from an extension lead. The grinder, extension lead and gloves were wet and the power had not been isolated.
- A 22kV bolted plug on a dragline cable failed catastrophically due to deterioration of insulation and tracking to earth of a connecting pin.
- A plumber was mounting water services to a block wall using a double insulated drill. He drilled into the wall and intersected a live 240V cable.
- A worker received an electric shock while running an air line in a workshop beside electrical cables. One of the cables had the outer insulation missing and the worker contacted a bare conductor.

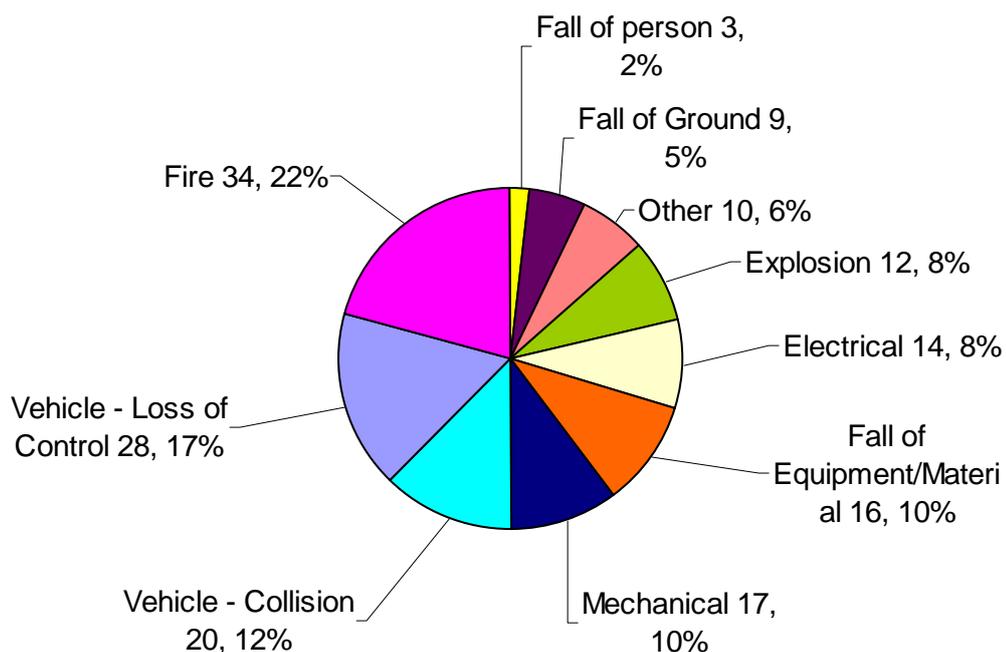
- A 30 tonne articulated dump truck was being transported on a low loader. Most items on the roof of the truck were removed except for the aerials. As the low loader past under a rail traction overhead wire at a level crossing, the aerials touched the overhead wires.

**Other (5)**

- Following an overburden blast a category 4 fume event occurred with the fumes travelling beyond the exclusion zone and off the mining lease.



**Figure 1: September 2011 Incidents (total 192) by Category**



**Figure 2: Twelve Month Rolling Average (164 incidents/month) by Category**

# Serious accidents and high potential incidents

## Mining and quarrying

### Compilation of reports for October 2011

#### Fall of Person (2)

- A worker walking along a maingate road slipped and hit his head on the ground. He sustained a gash to the back of his head and was taken to hospital for treatment and observation.

#### Fall of Equipment/Material (14)

- A scaffold plank fell from above, landing approximately one metre from a worker on the ground.
- A 6m length of drill string fell out of the mast of a DRA-MP1200 exploration drill rig while being unscrewed at the collar of the hole. It landed between the driller and the offside.
- A rock rolled down and over the bund on to the road while a Cat D10 dozer on the low wall was pushing material.
- A road tipper modified into a water cart was negotiating a sharp left hand corner when the tank detached from the truck body and slid off the base coming to rest on its side against the truck.
- A Cat D11R dozer went over an 8m coal face rolling on to its roof and over to the side. The operator was disoriented due to lack of visibility from excessive dust.

#### Fall of Ground (7)

- A wedge failure in a highwall resulted in about 250t of material falling onto the bench within 3m of an overburden drill located about 10m from the toe of the highwall.
- Rocks fell from a face and hit a Cat 988G loader.
- While loading out an overburden shot a 20t rock rolled down from the face and struck the Hitachi EX1200 excavator

#### Mechanical (21)

- While fitters were reconnecting the tracks of a Cat D10T dozer the master link caught on a fastening bolt of the catwalk support shearing the bolt and propelling it a distance of 16m.
- A faulty keyboard combined with a software bug caused an automatic / uncontrolled advance of underground coal mine chocks. The fault was not detected until the event log was analysed by the software developer in Germany.
- The boom of an underground coal Joy 15SC shuttle car rose up without being activated while the fitters were investigating a brake fault.
- A tail pulley on underground coal drift belt sheared at the bearing housing causing the belt to come off

the pulley and pull towards the tail end structure damaging the structure and the belt.

#### Vehicle – Collision (24)

- Two Terex MT4400 dump trucks collided in the tipping area when the truck in front rolled back while lowering the tray and struck the front of the truck waiting behind.
- An Eimco loader travelling along the main travel road collided with a driftrunner which was parked in a crosscut.
- A Cat 972 loader heading to clean up spillage near a crusher dust bin struck the support column of the bin causing structural damage when the operator tried to pick up his handpiece to respond to a call on the 2-way radio.
- A water truck watering the ROM bin area stopped to allow a Komatsu WA600 loader to reverse from the bin. The loader reversed and collided with the water truck.
- A light vehicle drove up the back of a road-train while travelling over a crest.
- A Cat 785 rear dump truck ran into the rear of another dump truck while manoeuvring at the dig face. Both trucks are fitted with proximity detection, but the system was not operating in one of the trucks.
- The canopy of an EJC130 loader collided with a conveyor ventilation underpass in a main heading. The canopy remained attached to the loader despite the front two posts of the canopy being sheared off at the base.
- An underground dump truck which was tramping down the surface ramp towards the portal collided at a corner on the ramp with a light vehicle which had just exited the portal.
- A Cat R2900 loader was backing around a corner when it struck the front of an occupied light vehicle. The loader pushed the vehicle back about 4m with the rear of the loader stopping just short of the windscreen.
- While a Cat 789 dump truck was queued at the digger waiting to be loaded the operator had a micro sleep and took his foot off the retarder. The truck rolled forward and collided with the dump truck that was being loaded.
- While a Cat D10T dozer was cleaning up in near a Terex RH170 excavator the bucket of the excavator swung and made contact with the front end of the dozer.

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

**Vehicle – Loss of Control (35)**

- While a Cat 24H grader was turning on a ramp the right hand front wheel axle snapped and the wheel rolled down the ramp.
- The rear wheel came off a light vehicle as it was travelling along an access road.
- While driving up a decline in a Cat AD55 haul truck the operator had a micro sleep and hit the wall breaking the cab window and causing structural damage.
- A Cat 785 dump truck lost traction on strip watered road and spun through 90 degrees.
- A Cat 793 dump truck was travelling up a ramp when it lost traction, turned sideways and slipped down the ramp for approximately 40 metres.
- A road train was turning a corner when the trailer detached itself from the prime mover.
- A serviceman was refuelling a dozer when the service truck started to roll away. The serviceman ran to the cab, climbed aboard and applied the park brake which stopped the truck.
- A Mack fuel truck rolled onto its side while travelling up a ramp after a steer tyre blew. The driver who was not wearing his seatbelt injured his shoulder.
- The prime mover and first trailer of a road train rolled onto its side while cornering on the haul road.
- A light vehicle rolled onto its side while overtaking a grader on a recently watered section of haul road.
- A Cat D300 articulated watercart was rounding a corner when the trailer rolled onto its side. The cab remained upright.

**Explosion (16)**

- The protective hose over a 12 volt lighting cable on a continuous miner was caught by a drill rig. The hose and internal cable were stretched causing the cable to break. The circuit protection did not detect the fault and power stayed on the cable.
- During maintenance on the methane monitoring system on a Driftrunner the methane monitoring system was found to be in bypass mode.
- During back spooling operations a shuttle car cable became jammed between the sheave roller and check plate. The cable pulled apart causing open arcing of the cable.
- A dozer drove over a perimeter bund and proceeded to within 40m of a loaded shot.
- Three un-inducted maintenance workers entered a quarry without advising anyone of their presence. They were found by other workers who were leaving the blast exclusion zone in readiness for a shot.
- After setting off a shot, the shotfirer noted that one of the blasts did not initiate. The shotfirer entered the development heading, connected up bell wire and ran it out for approximately 100m before firing the shot by hand.

**Fire (39)**

- A boilermaker was cutting drag ropes on a dragline when a stray spark caused the acetylene flashback arrestor to activate. The boilermaker turned the acetylene bottle off.
- A fire started in the engine bay of a Cat D10 dozer when diesel from the fuel line sprayed onto the engine.
- Sparks were observed coming from the left hand wheel motor of a Terex MT4400 dump truck. The operator stopped the truck and a flame was then seen coming from the wheel motor. The fire was extinguished by the water cart. A 300m exclusion zone was established and the vehicle left for 24 hours with the heat in the wheel monitored with a laser sighted heat gun.
- An operator was driving a Cat AD55 down a decline when the engine caught fire after an o-ring on a transmission oil filter failed and sprayed hydraulic oil onto the exhaust. Both the fire suppression and external fire extinguisher were needed to extinguish the flames.
- A fire started on a Cat D10T dozer when a ruptured hydraulic oil line sprayed oil onto the turbo. The cabin activated fire suppression system failed to work so the operator activated the external suppression system which extinguished the fire.
- A cross arm on a 66KV powerline pole broke causing the phase conductor to come in contact with the pole. This resulted in a pole fire which then caused a small grass fire.
- A spontaneous combustion fire occurred in an overburden dump. The fire was extinguished and the area covered with spoil.
- A grass fire was ignited by sparks emitted from arcing of a hot joint on one of the line phases at a 66 – 11kV transformer switch yard.

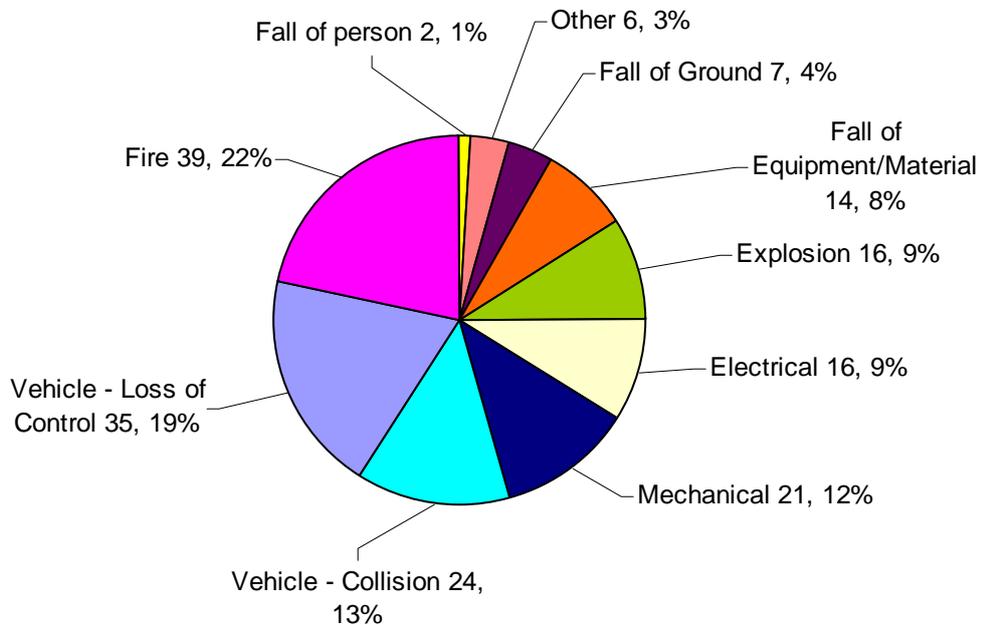
**Electrical (16)**

- A pump tripped on a short circuit fault due to the insulation in the motor terminal box being perished and cracked. When the circuit breaker was reset, a flash was seen to come out of the motor terminal box.
- An apprentice was disconnecting a weatherproof power point when he received an electric shock.
- Live 240V conductors were exposed in a lighting control box as a result of being hit by a dozer that was entering the workshop for maintenance.
- The blade of a rubber tyred dozer contacted an energised 11kV cable resulting in the cable being cut in half. Power tripped off the cable.
- An electrician received an electric shock from a junction box. It appears that the box was conductive due to environmental contamination.
- A fitter was utilising an Enerpac to undo segment bolts on the track of a dozer. As he was placing the head of the Enerpac onto the track he received an electric shock.
- During confirmation of isolation by an oncoming shift for a conveyor belt move, the crew determined that the isolator handle could be activated whilst in the locked position.

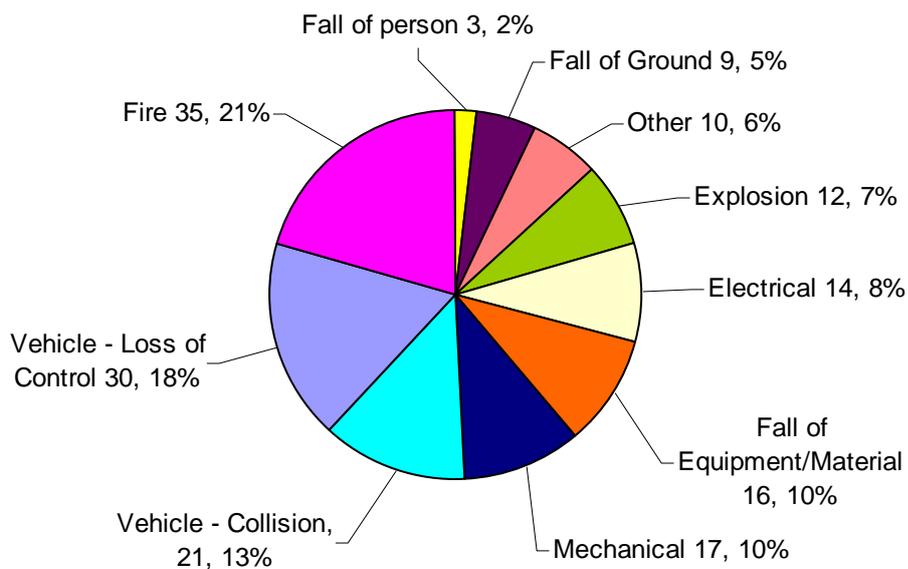
**Other (6)**

- A driller's offsider sustained burns to his gloved hand whilst removing a radiator cap from the drill rig's radiator which had been leaking and needed to be topped up.
- An "out of service" tag had not been attached to a Cat 785 dump truck which was waiting on repairs for a low air pressure fault and which had its tray raised and pinned. An operator started the truck

and lowered the tray which broke the locking pins and then could not disengage the park brake.



**Figure 1: October 2011 Incidents (total 180) by Category**



**Figure 2: Twelve Month Rolling Average (168 incidents/month) by Category**

# 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 open cut 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)**

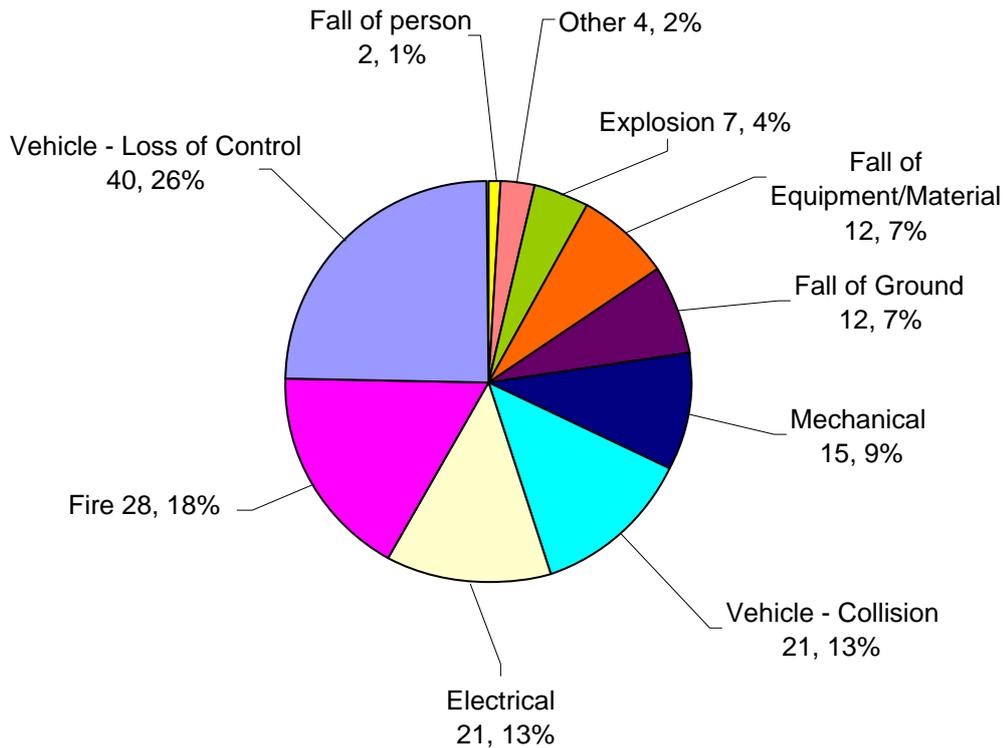
- A 15MVA 132/11kV transformer exploded cutting power to the mine.
- Suspected ingress of vermin into a 3.3kV 660kW exhaust fan circuit breaker caused the circuit breaker to fail.
- A 66kV powerline touched the ground due to the timber cross arm failing as a result of heat fatigue.
- A worker received 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.

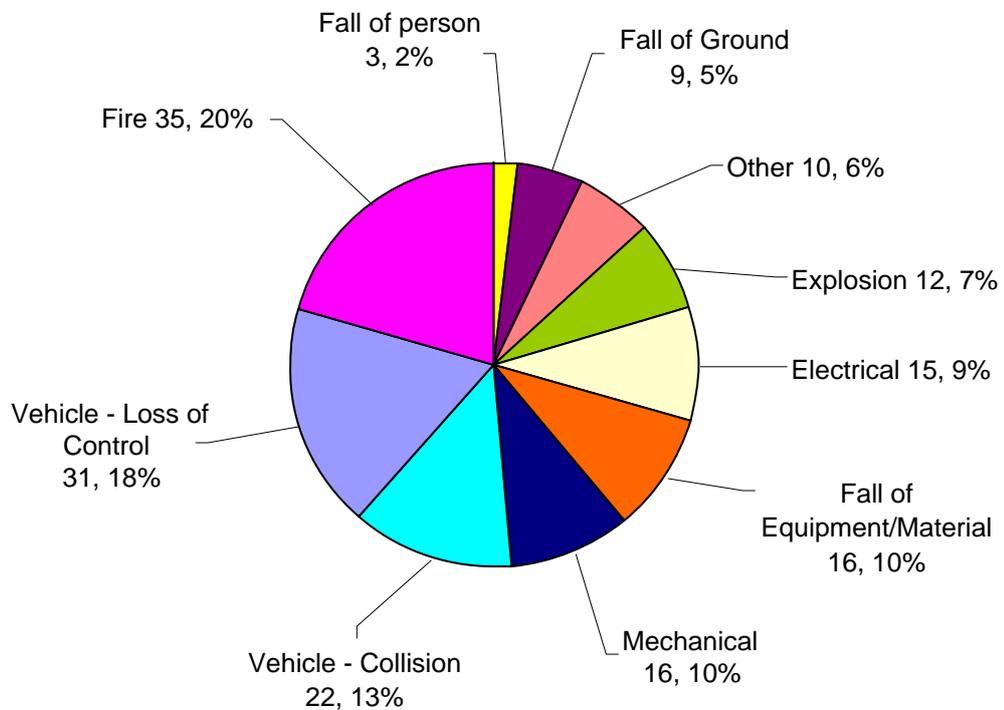
- A worker received an electrical shock from the lead of a power tool whilst replacing a screen. The worker had not completed a pre start inspection and was unaware of a cut in the cable exposing the active conductor.

**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**

# Serious accidents and high potential incidents

## Mining and quarrying

### Compilation of reports for December 2011

#### Fall of Person (4)

- At a refuelling location on nightshift a serviceman climbed up the access ladder of a parked Cat 785 dump truck. While standing on the top rung he lost his balance and fell to the ground. The serviceman injured his wrists, right leg and elbow.
- An operator fell and possibly fractured his left forearm while cleaning the front lights of a Cat R2900 loader.

#### Fall of Equipment/Material (19)

- An 8.7t conveyor gravity take-up counterweight fell to the ground due to failure of the hanger bolts.
- While pushing dirt a Cat D11 dozer operator backed up and slid over the edge of a 3m bench.
- A Cat D10T dozer was reversing along a bench when it slid off the bench and rolled over on its side.
- A lifting eye-bolt failed under load while fitters were lifting a slew gear box from a hydraulic shovel.
- During inspection of supports, a small piece of shotcrete was found to have fallen from the top of the rib line at the start of the arch.
- The operator of a Cat D10 dozer which was pushing up material to build a safety berm along a highwall dislodged some rocks which rolled over the edge and landed close to a serviceman working on a pit pump below.
- At a coal preparation plant, a vacuum filter underpan dislodged due to corrosion and hinged down to the floor.
- A B-double side tipper trailer rolled over while trying to tip wet sand from the rear articulated trailer.
- A small power screen feed conveyor, being fed by a loader, toppled over.
- While lifting a demountable building an articulated Franna crane toppled onto its side.
- An anchor bolt from the drill mast fell 7m onto the roof of the operator's cabin while the operator was drilling a hole.
- A light fitting reflector shroud dislodged and fell 10m to the floor.
- Workers removed the wings from a raisebore reamer while the reamer was still under the 4m diameter open hole.
- While a Cat 2900 loader was cleaning up an underground development heading above an open bench stope part of the floor 3m back from the face fell into the stope. The left front wheel of the loader dropped into the hole in the floor.

- The tray of an International body truck separated from the chassis and rolled off to the side while it was trying to tip material on unlevel surface created by previously tipped material.
- An Isuzu tip truck, with only one outrigger set, tipped over on its side while the operator was removing a load from the tray of the truck using truck's vehicle loading crane.

#### Fall of Ground (8)

- A 150m x 15m section of a tertiary clay low wall collapsed onto the pit floor.
- A 100kg lump of coal fell close to where a worker was changing picks on a longwall shearer.
- Coal mine workers were withdrawn from a development panel when it was realised that the rockbolts that had been installed in the panel were of an inferior steel quality.
- A jumbo was about to travel through old workings that had just been mined into when rocks fell from the back.
- A miner was struck by a rock that fell from the face while he was changing a drill bit on a jumbo drill rod. He sustained a fractured ribs and shoulder.

#### Mechanical (21)

- The cooling fan of a CHPP feeder breaker 150 kW electric motor disintegrated causing metal fragments to eject through the plastic cowling.
- While manually rotating the deck bush of a Reich 700 drill, the deck bush came free and struck the operator's finger resulting in the loss of his finger tip.
- A timber jack hydraulic cylinder lifted slowly towards the roof without any operator input.
- A chock at a longwall tailgate lowered without any operator input.
- Work was being carried out on a conveyor when a supervisor noticed it was not isolated.
- As a timber jack on a continuous miner was being lowered by remote control it contacted the end of a drill steel, the other end of which a miner had resting on the top of his boot. As the jack continued to lower it penetrated and went through the miner's foot.
- While removing the park brake assembly from a Komatsu 830E dump truck the park brake cap ejected when an Enerpac pump was connected to the park brake caliper and pressurised to over-ride the brake spring.

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

- The mobile boot end of a maingate conveyor unexpectedly moved 4m.
- A worker was struck with high pressure oil from a leak in a longwall chock. He was taken to hospital suffering a suspected fluid injection injury.
- A counterweight on an isolated conveyor was moved using an independent power source causing unexpected movement of the conveyor belt where another crew was working.
- A surface winder was inching a shaft conveyance into the chairing position on a shaft plat when the winder unexpectedly dropped the conveyance 4m. Subsequently a dead gecko was found in one of the relays of the control system.
- A 2t winch was pulled from its concrete base and moved forward 9m towards the pit edge while lifting a 185mm diameter HV armoured cable up a high pit wall.
- The main section of the boom on a Hitachi 450H excavator cracked and split open while loading a rear dump truck. The excavator arm and loaded bucket dropped onto the tray of the truck.

### Vehicle – Collision (27)

- An excavator was being escorted by a light vehicle to its work location. The driver of the light vehicle rounded a curve and stopped near the edge of the road to answer a phone call. As the excavator rounded the corner it ran into the escort vehicle.
- A loader cleaning up on a shot struck a stationary MMU with its bucket.
- As a Cat 793C was exiting a service bay after being refuelled, it contacted a vertical support beam.
- As a service truck backed away from an excavator it made contact with a parked light vehicle that had entered the work area. The light vehicle driver had not made positive radio contact nor parked in the designated parking area.
- A CAT 793C rear dump truck failed to give way to a light vehicle at a major intersection. Visibility from both vehicles at the intersection was poor. The light vehicle was able to slow and yield to the truck to avoid collision.
- An Atlas Copco articulated truck was travelling down an open pit ramp leading to the underground mine portal when it collided on a blind corner with a light vehicle coming up the ramp from the mine.
- A dump truck stopped at an intersection prior to making a right hand turn. As it moved forward a light vehicle carrying explosives drove into the intersection, the driver having assumed that the dump truck operator had seen him. The light vehicle had to take evasive action to avoid a collision with the truck.

### Vehicle – Loss of Control (47)

- As the operator of a fully loaded on-highway water truck came over the crest of a hill on an exploration drill site he unsuccessfully attempted to select a

lower gear. He lost control of the truck as it gained momentum down the hill. The truck veered off the track into the scrub and rolled onto the passenger's side.

- A Komatsu 930E dump truck slid 40m on a recently watered ramp and ended up 90° to the direction of travel.
- A Cat 789D dump truck was travelling on a recently watered haul road when the truck lost traction and spun through 180° before stopping.
- A Cat 777B dump truck lost traction while travelling down an over watered ramp and skidded, started spinning, hit the safety berm and ended up facing uphill.
- The operator of a Cat 785B dump truck lost traction when he drove down a ramp in 4<sup>th</sup> gear and through a pool of water at the bottom. The truck slid off the road and straddled a safety berm.
- The operator of a Cat 777 dump truck encountered very heavy rain which limited his visibility as he approached a sweeping corner. The truck continued straight ahead and came to rest in a table drain on the opposite side of the road.
- The operator of an empty Cat AD55 dump truck lost control of his truck after negotiating a turn on a decline and slid 15m before coming to rest against the wall.
- The operator of a Normet agitator truck was travelling down a decline when the truck stalled causing loss of all braking capacity and steering. The truck then freewheeled for 20m before striking the decline wall and coming to a stop.
- A Mack service truck was travelling down a ramp to re-fuel an excavator on the pit floor when the operator lost control of the truck. He was unable to stop and collided with the excavator.
- The operator of a Komatsu 960E dump truck had a micro sleep and drove into a drain as he turned left at the top of a ramp.
- A Cat 775F dump truck which was parked outside a workshop rolled away 27m and ended up in a drain.
- While waiting to load from a chute the operator of a Cat AD45 truck stopped approximately 4m behind a parked truck and left the cab. His truck rolled forward into the tray of the parked truck, damaging the cab.
- A fully loaded water truck was going up a short steep ramp in second gear when the rear wheels started to tramp. The operator tried unsuccessfully to change down to 1st gear but the transmission ended up in neutral. The truck rolled back and stopped against the safety bund.
- A Mack road train was parked on a ROM pad with the park brake applied while the driver was loading the truck with a loader. After placing the last bucket in the back trailer the truck started to roll backwards and jack-knifed.
- A shotfirer's light vehicle rolled onto its side as it entered a magazine compound.
- A brand new Cat 789C dump truck was travelling along a haul road prior to undergoing final commissioning when the position 3 wheel assembly dislodged from the hub.

- While loading a dump truck on a bench a Liebherr 996 excavator started to slide down a ramp toward the dig face. The operator swung the bucket around and placed it on the ground in the direction of the slide and the excavator came to rest against the bucket.
- The weight of a lighting plant being towed by Toyota troop carrier down a ramp resulted in the light vehicle skidding for 60m before coming to a stop at the bottom of the ramp with the lighting plant jack knifed.
- A lighting plant was being towed to a new position when it detached and rolled uncontrolled into a parked truck.
- A shuttle car unexpectedly moved 1m after being stopped because the hand brake had not been applied.

### Explosion (12)

- A dozer operator drove over a bund wall and into a loaded shot area. There was no barrier installed as the height of the bund was considered to be adequate to prevent entry. The dozer then walked along the edge of the shot and exited through the barrier at the other end.
- During a planned ventilation change for a longwall a ventilation control device was inadvertently opened wider than intended causing in excess of 2% methane to pass through the bleeder fan.
- During an external inspection of a Driftrunner, an electrician noted that one light was not operating due to severing of the cable inside the FRAS hose.
- A high impedance fault within a cable plug for a 3.3kV tailgate drive cable on a longwall developed into a short circuit fault. This caused the cable and molten metal to be ejected from the plug and a small fire. Workers put the flames out with a hand held extinguisher.
- A worker started welding on an explosives MPU truck that had been emptied but not decontaminated of explosive residue.

### Fire (34)

- Sparks from grinding ignited a workers shirt.
- A hydraulic line in the engine bay of a Cat 789 truck ruptured spraying oil onto the engine, starting a fire. The operator activated the on-board fire suppression system and extinguished the fire.
- The fire suppression system failed to activate on a Cat D10 dozer after a fire started. A hand held extinguisher was used to put it out.
- A potable water tanker was delivering water to a mine village when the petrol powered pump ran out of fuel. While refuelling the pump petrol spilled onto the exhaust and started a fire. Water from the tanker and hand held fire extinguishers were used to put the fire out.
- Whilst transferring ammonium nitrate prill from a bulk container to an MMU an electrical fire started in the tube conveyor motor. The operator hit the stop button and used a hand held extinguisher to put the fire out.

- A fire started in the engine bay of a Cat 769 dump truck after a failed hydraulic hose sprayed oil onto the engine. The auto fire suppression system controlled the fire.
- Fire started on a Legra dewatering pump after oil sprayed onto the turbo.
- A fire in the relay box of a Cat R2900G loader was extinguished with a hand held extinguisher.
- A hydraulic hose burst on a Cat D9 dozer spraying oil over the turbo. A hand held extinguisher was used to extinguish the resulting fire.
- The operator of an Atlas Copco MT5020 dump truck was tramping up a decline when he noticed flames coming from the engine bay. He pulled up and activated the AFFF system. The fire reignited after the system was depleted so the operator used a hand held extinguisher to put it out.
- A fire started on a Cat AD55 dump truck when a failed driveshaft hit and loosened a hydraulic hose allowing oil to spray onto the exhaust. The operator shut the truck down and activated the AFFF system.
- During routine earth leakage tests on a dragline a flash and fire occurred in an adjacent switchboard when a capacitor for a 2 kW light ignited when the circuit was re-energized.

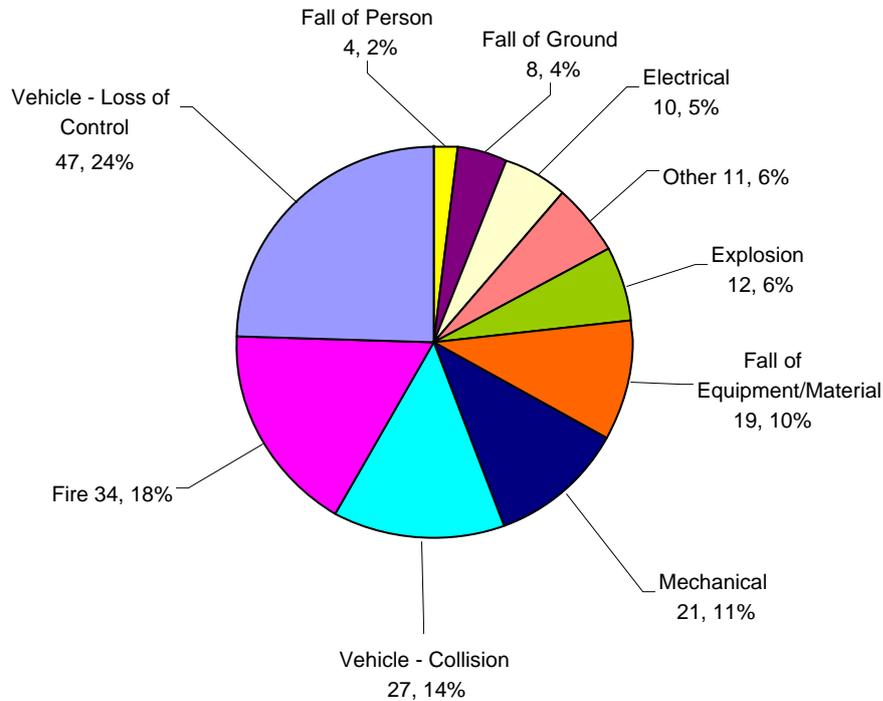
### Electrical (10)

- An electrician received an electric shock from a 10kV insulation tester whilst testing a high voltage cable.
- A worker received an electric shock while using a grinder to cut bolts in a SAG mill discharge area when water from the mill dripped onto his arm and ran down onto the grinder.
- A loaded Liebherr T282C electric drive dump truck lost traction after the capacitors in the DC-DC converter panel failed.
- The boom on a 30t long arm excavator contacted an 11kV overhead powerline when the operator slewed the boom while reversing from a creek in the mill area where he had been removing sand.
- A worker was closing a gate at a mine while there was lightning activity in the area when he blacked out for a period of time. He was sent for a medical assessment where an irregularity in heart beat was detected. Blood tests later confirmed that the worker was possibly subjected to an electric shock from the lightning.

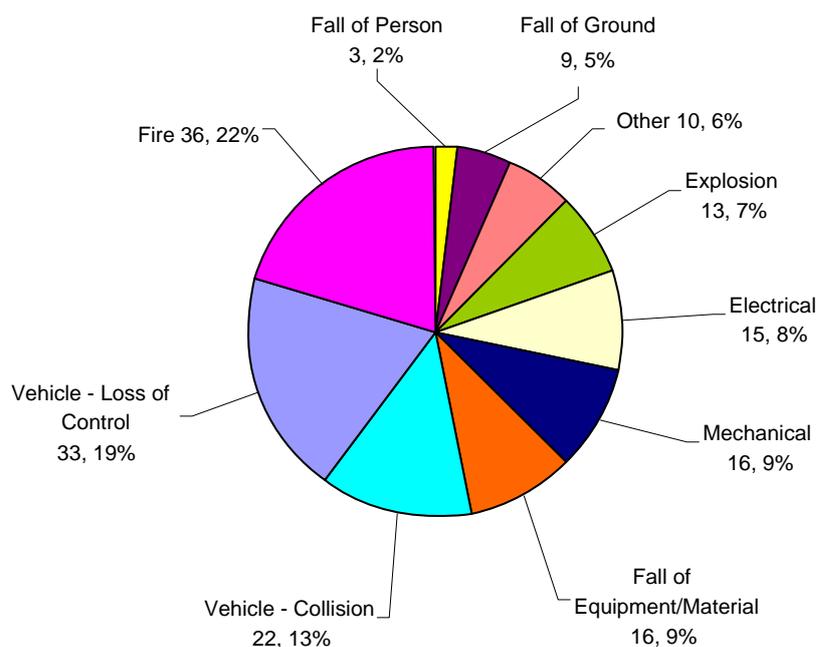
### Other (11)

- Following an overburden shot a Level 2 fume event occurred. Five workers in a crib hut were affected by the fumes and received medical treatment.
- An unexpected level 4 fume event occurred following an overburden shot that had been slept for 20 days due to charging delays caused by wet weather.
- A gust of wind overturned a crib hut which had just been delivered to site. It was not yet occupied and was unrestrained at the time.

- An operator sustained a serious back injury when a Cat 785C dump truck hit a bump and the operator's seat collapsed.
- Workers were clearing a blocked drain hole in a sump when the blockage suddenly cleared. The operator slipped into the sump with the rush of water trapping his leg in the drainhole.
- A trainer stood on the access ladder of a loader cab while the loader was being driven by a trainee.
- An aerosol can used to inflate a blasthole decking bag ruptured in the bag while the bag was being carried on a shot. The bottom of the can blew out through the end of the bag landing 3m from the worker.



**Figure 1: December 2011 Incidents (total 193) by Category**



**Figure 2: Twelve Month Rolling Average (172 incidents/month) by Category**