

# Serious Accidents and High Potential Incidents

## Mining and quarrying

Mines Inspectorate

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### Summary of reported incidents for period 1 February to 30 April 2009

#### 1. Gravity – Fall of Person (8)\*

- An operator was stepping down from a Volvo L180 loader when he slipped on the second step, fell and landed on top of the blade of a grader parked next to the loader. He suffered grazes and a possible cracked rib.
- After being loaded, an operator noticed that the bonnet on the engine bay of his AD55 truck was open. He climbed onto the top of the truck and closed the bonnet. He took a step backwards and slipped, falling two metres to the ground.
- An employee sustained a suspected broken right leg and a laceration to his head when he fell while climbing a bund wall.
- An employee helping to lift a steel beam stumbled and fell over. The steel beam landed on his lower leg causing swelling and bruising.
- A trainee grader driver was standing in the driver's cabin with the door open while the grader was being driven by the trainer.

#### 2. Gravity – Fall of Equipment (31)

- As a Cat D10 dozer was being used to push a ramp access, part of the ramp gave way in front of the dozer.
- The left hand rear tyres of a Komatsu 830 rear dump truck were reversed through the window on a tip head.
- The operator of a CAT 793 rear dump truck reversed towards the rill of an advancing waste dump. The truck was positioned such that it straddled both the existing and extended sections of the face. The off-driver's side rear wheel broke through the rill on the dump and dropped over the edge.
- While pushing mud off a tip head on an in pit dump a Cat D11R dozer drove over the edge of the dump and became lodged in a near vertical position.
- During coal pushing operations on a stockpile, the coal fell away from under the dozer while it was above the feeder chutes.
- A 25 tonne excavator preparing a pump pad on a spoil stockpile in the pit was working close to the edge, when the machine started to slip. The operator used the bucket to prevent falling into water.
- Backfill slumped in a roadway above a panel stope where a loader had been tramming.
- While testing movement of the mast on a diamond drill after repairs the mast was raised causing the rig to overbalance and fall over.

- A D75K overburden drill tramming up an in-pit ramp trammed over a safety berm and fell five metres landing on its roof. A fire started, the operator called emergency services and they extinguished the fire. The operator sustained a suspected broken wrist.
- A trolley with a chain block and sling attached ran off the end of a gantry beam falling three metres to the ground.
- A fitter was operating an overhead crane in a workshop when a long travel drive gear fell from the crane.
- A swivel and steel elbow weighing 18kg detached from the top of an exploration drill rig mast. It fell four metres and struck the driller's offside who sustained concussion and lacerations to his head and arms.
- In the process of adding a new rod on a GD1000 exploration drill rig, a sheave broke and fell ten metres from the top of the drill mast.
- A dragline was high spoiling when the bucket went through the hoist limits and into the boom point sheaves causing the hoist ropes to break and the bucket to fall onto the spoil pile. The hoist ropes broke the handrails off the boom catwalks with part of the hand rails landing on the operators cab.
- As a wear plate frame was being lifted into place one leg of a 13mm two leg lifting chain failed.

#### 3. Gravity – Rockfall (32)

- Two upper benches of a highwall slumped after a week of rain.
- A rock fell from the headboard of a Cat 785B rear dump truck, landing on the hand rails beside the driver's door. It then rolled against the driver's door breaking the window.
- While unrolling a trailing cable out from the wall in a pump sump a rock fell from behind the trailing cable, rolled down and hit the worker on the shoulder.
- An excavator with an extension scaling bar was scaling a wall on a ramp. Some material started to rill adjacent to where he was scaling, so the operator slewed the machine and started to walk away from the area. 1500 tonnes of material then fell striking the left hand side of the machine.
- During the loading of the front row of blast holes a section of the highwall collapsed covering five loaded holes.
- A dozer was pushing up a safety berm on a highwall bench when material dribbled over the side and landed on the pit floor near a worker who was inspecting pumps.

- While a rear dump truck was dumping material on top of a low wall some material ran down into the pit to where dozer operators were hot seat changing.
- A slab of rock fell in a light vehicle parking bay near an underground cribroom.
- A 500 tonne rockfall was found in an intersection.
- Thirty-five tonnes of rock fell from the shoulder of a drive against the rear of an operating cablebolting rig.

#### 4. Mechanical (47)

- When a hose caught on an underground loader canopy the operator reached out of the cab to lift it out of the way. As he did so the machine moved & tilted, trapping his wrist against the wall and fracturing his forearm.
- A fitter was attempting to install an isolation pin for locking out the articulation of a loader. When the loader was moved to line up the hole the pin shot out of the housing contacting the frame and fracturing the fitter's thumb.
- A light vehicle was travelling about 25 metres behind a dump truck when the position six tyre of the truck blew out throwing up a rock which hit the light vehicle's windscreen.
- A dual tyre assembly on a low loader was being removed with the assistance of a forklift. While locating a sling around the tyres to prevent them from falling off the forklift tynes the worker asked the forklift operator to move forward slightly. The operator complied but also lifted the forks which crushed the employee's arm between the tyre and the low loader frame resulting in a fracture to his right arm.
- A maintenance employee was found to be working in the footprint of a haul truck which had been isolated but not tagged and locked out.
- During removal of a track roller from a Komatsu dozer, the overhead crane being used to suspend and move the roller on a lifting frame shifted rapidly resulting in the employee being pinned between the frame and a tyre of a rear dump truck.
- A fitter bumped his head while removing the belly guard from a Cat 475 dozer and was unconscious for about ten minutes.
- A Cat D11 dozer was towing a bogged Cat 785C rear dump truck using a 300 tonne kevlar tow sling when the eye of the sling moved up on the dozer tyre and struck the bottom of the ripper box. This caused the eye side cover plate to distort and be ejected a distance of twelve metres.
- A driller's offsider was attempting to hold a stillson wrench on a drill pipe as the drill pipe was raised. He jammed his hand on the frame of the drill mast, breaking a bone in his hand.

- During removal of drill rods from an exploration drill string, one of the rods fell to the ground.
- A worker had his hand on a chuck and drill steel when he inadvertently activated the drill rotation. His glove caught and twisted breaking two fingers.
- A worker's arm was peppered by debris when he disconnected a compressed air manifold while it was still pressurised.
- The cab of a front end loader was ripped off by a chain used to support stone dust bags.
- During crusher maintenance in a coal prep plant the nuts that hold the picks onto the rotor had been replaced and tensioned. One of the nuts had been locked in place by a weld between it and the crusher body. Shortly after, the nut split into two with the sections hitting the crusher sides and dropping to the conveyor below.
- A 125mm diameter grinding wheel disintegrated.
- A hole being drilled for a fuel line from the surface to an underground sub-level deviated into an un-barricaded development drive.

#### 5. Mechanical – Vehicle Collision (73)

- A worker, driving his light vehicle along a main haul road, sustained fatal injuries when he drove into the rear of an empty "Towhaul" low loader travelling in the same direction.
- A Cat 992 loader was travelling along a haul road with its bucket raised when it collided with the cab of a light vehicle stopped at an intersection.
- A light vehicle rear ended a vehicle that was stopped at an intersection.
- A light vehicle collided with the rear of a maintenance truck which was slowing down to stop at a bypass road entrance.
- After relocating a light vehicle from a designated park up area the dozer operator trammed over the top of it.
- A dozer operator returned to work after a crib break and while moving off and turning the dozer collided with the light vehicle parked nearby which he had just got out of.
- A Cat 980G loader backed into the front of a parked water truck.
- A Cat 785 water truck reversed out of a workshop to park on the go line and collided with a parked Cat 773 water truck.
- At the top of a ramp a Cat 793 rear dump truck reversed out of an area being graded and collided with a Cat 777 rear dump truck wrecking the stairs on the 777 and pushing it back two metres.
- An MMU Volvo explosives truck reversed into a light vehicle pushing it back two metres.
- A Toro loader contacted a stationary light vehicle while reversing into a drive.
- A dozer operator had accessed a Liebherr T-262 rear dump truck to speak with the driver. When he

exited the truck and reached for the button to raise the stairs the truck moved forward and proceeded to drive off.

- When a Terex RH170 excavator slewed to the cab side the counter weight collided with the fuel tank of a dump truck that had reversed in on the off side.
- While setting up to be side loaded a rear dump truck backed under the digger bucket at the wrong angle. The digger operator continued loading however after three loads the bucket contacted the handrail and driver's side mirror of the rear dump truck.
- The off side house of a dragline made contact with a Cat D11 dozer, knocking off the lights on top of the cab.
- A light vehicle turned right across a haul road prior to a road dividing bund that was signed posted as "Keep Left" and drove into the path of another light vehicle resulting in a crash.
- A float had pulled off a haul road in preparation to make a right hand turn when a light vehicle passed and turned in front of it.
- While crossing an intersection the driver of a Cat 631 scraper didn't see an approaching Cat 789 haul truck and hit the rear right hand side wheel of the truck.
- After waiting at a T-intersection for a loaded truck to pass from the left, an empty Cat 776D bottom dump truck pulled out to turn left and collided with an empty 776D coming from the right.
- A haul truck drove through a give way sign into the path of a Franna crane. The crane operator took evasive action to avoid a collision.
- A grader turned unexpectedly in front of a loaded Cat 785 rear dump truck. The truck had to brake heavily to avoid a collision.

## 6. Mechanical – Vehicle Loss of Control (56)

- A Volvo A25 rear dump truck lost brakes while travelling downhill. The operator steered the truck to the designated escape ramp and managed to bring it to a halt.
- A Cat D10T dozer was pushing down loose material in a spoil pile when it rolled end over end, coming to rest on its tracks at the bottom of the pile.
- When a light vehicle got stuck in a wheel rut, the driver over-corrected and the vehicle rolled over.
- A rear dump truck operator was driving back from the ROM on night shift when he fell asleep and ran up onto the safety berm.
- When a Cat 785B rear dump truck operator fell asleep his loaded truck straddled a safety berm for about fifteen metres before stopping.

- A Komatsu 730E rear dump truck driver drove up onto the safety berm when he lent across to find his water bottle.
- A light vehicle drove up onto a safety berm and came to rest on its side when the driver leaned across to retrieve a 2 way radio hand piece from the passenger seat.
- A rear dump truck came around a bend on a recently watered road, lost traction, slid across the road and side-swiped another truck.
- A Cat 793 rear dump truck skidded and rotated through 90 degrees as it was turning at a wet intersection.
- A Komatsu 785 rear dump truck rotated through 180 degrees while travelling down a recently watered ramp. The truck driver coming up the ramp stopped to avoid a collision.
- While an operator was folding away a lighting plant his light vehicle, which was on a slight slope, rolled approximately 150 metres into a safety berm.
- A light vehicle had just been parked on a decline when it started to roll away. It travelled down the decline about 70 metres before stopping against the wall.
- While exiting a ramp a rear dump truck driver shifted gears. The truck reared up and flipped to an upright position sitting on its rear wheels and the end of the tray.

## 7. Explosion (43)

- NERZ methane monitors were set to trip at 1.25% rather than the required 0.5%. The setting error was found during routine calibration.
- The operator of an Hitachi EX3600 excavator breached a blast barricade and walked the excavator into a blast area.
- A worker drove a light vehicle through a blast exclusion zone along a back access road immediately prior to a blast.
- A blast had been fired but the exclusion zone not yet re-opened when a fitter exited a dragline bench via an access road that was inside the exclusion zone.
- When an overburden shot was fired flyrock landed close to the shotfirer.
- A single hole in an inter-burden shot was found to have "self" initiated.
- A small electrical fire started in the engine compartment of an emulsion phase explosives transfer pumping unit.
- A continuous miner cable showed arcing damage on pins after the cable failed in operation.
- The battery on a Toyota Dyna truck exploded as the driver was checking the battery after the engine had stopped. Battery acid ended up contacting his arm, shoulder and face.

- A battery exploded in a workshop battery charging shed.
- An aerosol can of spray lubricant located in the back of light vehicle parked in a workshop exploded hitting one of the workshop doors.

### 8. Thermal Fire (63)

- The operator of a Cat 994 loader noticed a burning smell and vibration coming from under the cab while loading a truck. As he backed away from the truck the vibration increased, the machine stalled and flames were noticed around the cab area. The operator called for a water truck to assist and evacuated the unit. He sustained a laceration to his shin and a burn to his ear. The loader was extensively damaged.
- A small fire occurred in the electrical harness of a Cat 992G loader. Coal dust and diesel on the harness supported the fire once it started.
- A small fire started in the centre hitch area of an Atlas Copco 1257 Simba drill rig.
- During the first load following repairs, the driver of a Komatsu 630E rear dump truck found a small fire around the engine turbocharger. Cardboard, packed between the turbocharger and the heat shield, had not been removed prior to the truck being returned to service.
- A fire occurred on a Cat 789B rear dump truck when a steering hose ruptured spraying oil onto the radiator fan and then onto the exhaust.
- As the operator of a Cat 785 rear dump truck lowered the tray he noticed some flames coming from the engine compartment. A hydraulic hose had burst and sprayed oil onto the engine.
- A fire occurred on a Cat D10 dozer when the lagging around the turbocharger caught alight.
- A split in a steel water pipe enabled Glycol coolant to spray onto the turbo of an Hitachi EX2500 excavator. The coolant ignited before it self extinguished when the machine was shut down.
- A fire started in coal dust on a Terex excavator starter motor.
- A hydraulic hose on a Leibherr 996 excavator failed and sprayed oil onto the exhaust causing a small fire.
- A tyre on a water truck caught fire. The fire was extinguished by the mine's emergency response team, the area cordoned off and the truck left for 24 hours.
- A diesel spill occurred in a fuel farm bund. The diesel was soaked up with absorbent material. The next day the diesel soaked material ignited when hot work was conducted in the area.
- A tank of sodium ethyl xanthate started emitting smoke after being mixed. The QFRS were called and they evacuated nearby plant and extinguished

the fire which was caused by decomposing xanthate.

- While cutting bolts off a screen in a coal prep plant hot material fell into a pipe with a poly insert and caused a fire.
- A worker attached the gauges to a new oxy bottle, turned on the tap and discovered a leak at the handpiece. He turned the bottle off, fixed the leak and when turning it back on the gauge exploded with a small flame emitting from the pressure blow off safety valve.

### 9. Electrical (19)

- An arc fault occurred inside a 415V electrical enclosure causing super heated gases to be vented externally around the edge of the motor cell door and subsequently burning the electrician who sustained minor burns to his face and arms.
- During plant demolition a worker used bolt cutters to cut through a redundant 110V cable that he thought, on the advice of the supervisor, was de-energised. An arc was seen when the cable was cut.
- A worker received an electric shock from a light switch as he went to turn the lights off. The switch was wet from water that had leaked from the roof into the switch.
- A buried live 415 volt cable was exposed whilst digging up an area. A dig permit was in place. A redundant cable was also cut in half.
- Two workers received an electric shock whilst hosing out around the boom lift cylinder of a shuttle car.
- A worker received an electric shock when the trigger of a MIG welder was activated when placed on a plank he was sitting on.
- A person received an electric shock whilst feeding wire through a wire feed machine. The trigger was inadvertently activated while with the wire was in contact with his leg.
- A worker received an electric shock from a welding machine.
- A fitter sustained an electric shock after the welding machine wire feed became stuck and he decided to pull on the wire to free the blockage.
- Upon opening a main enclosure an electrician has noticed the control power to the control circuitry was still live.

### 10. Other (25)

- E. Coli was detected in potable water and an ice machine.
- An underground serviceman assisting to install a pump suffered dehydration and was taken to hospital.

- Three workers were affected by suspected H<sub>2</sub>S fumes after a surface blast.
- A worker was cleaning rust scale from a weld on the door on the side of a leach tank when a small amount of plant liquor containing 200ppm cyanide and 500ppm lime sprayed from the leach tank through the rusted area onto the worker.
- While disconnecting a fuel hose from a Franner crane, diesel flowed out of the overflow pipe due to back pressure, and showered the worker over his upper body and head with diesel.

***\* The number in brackets beside each category heading is the total number of incidents reported for that category from February to April 2009.***