

# Significant explosives accidents and incidents



Safety and Health

Explosives Inspectorate

For : January 2009

## Security

Incident	Explosives Type	Quantity	Description
Loss of explosives	Blasting	1 x 150 gram Booster	During a stocktake at a magazine it was found that one of the boxes containing boosters was deficient by one 150g booster. The box had not been opened since manufacturer packaging. A similar set of circumstances occurred at another location
Theft of explosives			None reported during January 2009
Spillage	Blasting	Bulk Ammonium Nitrate < 1200 kg	A bulka bag was not secured appropriately which resulted in it falling over and spilling AN onto the road. The bag and seal failed due to being defective or being roughly handled

## Safety

Injury or property damage	High Potential	Explosive Type	Industry Sector	Description
Misfire	Yes	Blasting	Shotfirer	While digging out a shot overburden, a downline cord with an attached booster and detonator became caught in the bucket of the excavator. A contributing factor was the failure of the explosives down line.
Misfires	No	Blasting	Shotfirer	There were 21 misfire incidents reported for the month of January

Chief Inspector of Explosives

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# Significant explosives accidents and incidents



Safety and Health

Explosives Inspectorate

For : February 2009

## Security

Incident	Explosives Type	Quantity	Description
Loss of explosives			None reported for February 2009
Theft of explosives			None reported for February 2009

## Safety

Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
Potential for death, serious injury, or property damage	Yes	Blasting	Shotfirer	A digger operator found unexploded product, and upon investigation found a live lead. Shotfirer retied the shot and fired it successfully.
Potential for poisoning	No	Blasting	Shotfirer	Observation of oxides of nitrogen during blasting at mine
Potential loss of explosives product	No	Blasting	Shotfirer	Rain event caused Ramp to flood overnight. Primed and loaded blast holes went underwater
Potential for death, serious injury, or property damage	No	Blasting	Shotfirer	12 Misfires reported for February 2009 Hole dislocation 2, Product failure 2, Shotfirer error 1, Slumping 1, Unknown 6
Spillage of ammonium nitrate	No	Ammonium Nitrate prill	Shotfirer	Whilst loading a tipper, a bag of Ammonium nitrate prill was raised over the hopper and cut to release the contents. The AN had formed into hardened blocks. A block of approximately 200 kg fell to the ground.

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# Significant explosives accidents and incidents



Safety and Health

Explosives Inspectorate

For : March 2009

## Security

Incident	Explosives Type	Quantity	Description
Loss of explosives			None reported for March
Theft of explosives			None reported for March
Other			None reported for March

## Safety

Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	No	Blasting	Shotfirer	21 misfires reported for the month of March : 5 shotfirer error, 4 product failure, 1 flyrock, 1 slumping, 1 geological fault, 9 unknown One misfire was considered a high potential incident where a Full length misfire was found in the back of a development heading by the shot creating crew. A Jumbo had drilled within 150mm of misfire. The misfire was not identified by either the face prep crew or the Jumbo operator

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# Significant explosives accidents and incidents



Safety and Health

Explosives Inspectorate

For : April 2009

## Security

Incident	Explosives Type	Quantity	Description
	Blasting	Residual of spill	The driver of a B-double laden with thirty 1.2 tonne bulka bags of SSAN pulled over to the verge to allow a wide-load vehicle under police escort to pass. A steep shoulder leading to the road dish drain caused the vehicle combination to slide from the road way and fall onto its side. Two bags of SSAN split and product spilled onto the grass verge. Minor diesel fuel leaks occurred from the fuel tanks of the prime mover. The leaks were contained using the onboard spill kit and did not contaminate any SSAN. The driver was uninjured.
Theft of explosives			None reported for the month.
Other			A safe containing explosives magazine keys was stolen from a mine site.

## Safety

Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	No	Blasting	Shotfirer	Twelve misfires were recorded for the month: 5 product failures, 1 shotfirer error, 1 column dislocation and 5 unknown.

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Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	Yes	Blasting	Shotfirer	A production rig was drilling blastholes approximately 15 metres from a charged shot. When the operator blew out the hole, explosives in one blasthole located in the charged shot area were forced out of the blasthole by air pressure from the drill rig. It would appear that the air pressure has travelled from one hole to another via fissures in the rock.
None	No	Blasting	Shotfirer	A shotfirer was in the process of programming a new type of remote firing equipment for electronic detonators, prior to firing shot, when two blastholes detonated prematurely.
None	No	Blasting	Shotfirer	Whilst investigating a misfire it was established that at crib break time the entire blast crew broke for crib and left the partially loaded shot unguarded
None	Yes	Blasting	Shotfirer	MMU was on bench loading a baited shot. It was driven across unloaded but baited shot knocking over staked downlines. The MMU operator backed up to check damage and ran over downlines again. Operator alighted from MMU, put stake back into drillings and drove off. Shotfirer observed the operator's actions, checked downlines and found one cut and one damaged.
None	Yes	Blasting	Transport	An EP pump trailer fire caught fire when its disc brakes locked.
Personal injury	Yes	Blasting	Transport	A B-double truck rolled over while loaded with 40 tonnes of emulsion
None	Yes	Blasting	Shotfirer	A dozer entered onto an active bench. A shot was being loaded when a dozer driver traversing the area entered through the reload access. It was stopped by shot crew before it reached loaded or baited holes.
Loss of explosives	Yes	Blasting	200 Litres emulsion	Two rail cars carrying ammonium nitrate emulsion were derailed. Approximately 200 litres of emulsion was split onto the ground

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For : May 2009

## Security

Incident	Explosives Type	Quantity	Description
Loss of explosives	Boosters	40 only	PDP boosters lost from back of shotfirer's utility
Theft of explosives			None reported for May
Other	Blasting	Unknown	Magazine keys left in shotfirer's utility overnight
Other	Blasting	Unknown	Electricity failure on main feed at Government Explosives Reserve

## Safety

Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	No	Blasting	Shotfirer	16 reports of Misfires for May 1 Column Dislocation, 2 Detonator Failure, 3 Loading Method, 1 Slumping, 1 Rockfall, 1 Initiation System Failure, 2 Shotfirer Error, 2 Product Failure, 3 Under Investigation
None	Yes	Blasting	Shotfirer	One misfire considered to be a High Potential Incident, where a jumbo operator drilled within 150mm of a previous misfire
None	Yes	SSAN	Transport	Trailer tipped over at reload area
None	No	SSAN	Transport	Loss of containment, SSAN spill from truck

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# Significant explosives accidents and incidents



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Explosives Inspectorate

For : June 2009

## Security

Incident	Explosives Type	Quantity	Description
Theft of explosives			None reported.
Loss of explosives			None reported.
Other	Detonators	2 x 20' Containers	Containers left on wharf for two weeks. Inspectorate not advised of import.

## Safety

Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	No	Blasting	Shotfirer	Fourteen misfires reported for June: 4 dislocations, 4 procedures, 3 initiation system failures, 1 product failure, 1 wet hole, 1 slumping.
Property damage	Yes	Blasting	Shotfirer	A blast at a quarry generated flyrock which travelled approximately 300m. No injuries, \$5,000 property damage.
None	Yes	Blasting	Transport	An MPU failed to negotiate a corner and rolled over. The lid of the MPU failed, allowing emulsion to spill.
None	Yes	Blasting	Shotfirer	Nitrous Oxides created by a blast. Blast fume concern from drillers who were 3.8km from the blast. No injuries and the Blast Controller at the 1.0km exclusion zone felt that the blast fume was not a hazard to site or personnel.
None	Yes	Blasting	Shotfirer	Grey smoke seen coming from a loaded hole at a mine.
None	No	SSAN	Transport	Loss of SSAN in transit due to two damaged bulka bags. The security seals were intact on the damaged bags.
Injury	No	SSAN Emulsion	2.5 tonnes 20 litres	While travelling from the depot to a site, an MPU failed to negotiate a corner and rolled over.

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For : July 2009

## Security

Incident	Explosives Type	Quantity	Description
Loss of explosives			None reported for the month of July
Theft of explosives			None reported for the month of July
Other			None reported for the month of July

## Safety

Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	Yes	Blasting	Shotfirer	Eighteen misfires reported for the month of July : 2 stemming, 1 slumping, 1 shotfirer error, 1 desensitisation, 2 column dislocations, 1 product failure, 2 initiation system failures, and 8 unknown
Personal illness	Yes	Blasting	Shotfirer	A Nitrous Oxide blast fume affected fourteen persons with nausea and headaches. These persons were 650 metres from the blast, which had an exclusion zone of 500 metres. A sudden change in wind direction was a contributing factor. Later on it was realised that these persons had varying levels of exposure and subsequently some of them attended hospital for observation.
None	Yes	Blasting	Shotfirer	A post-blast fume event at a coal mine resulted in a visible fume, which lasted approximately 10 minutes
None	Yes	Blasting	Storage	A corner of an ANFO unit load caught on a wooden pallet tearing a small hole in a bag of ANFO.
None	Yes	Blasting	Shotfirer	A post blast fume event occurred at a coal mine.

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For : August 2009

## Security

Incident	Explosives Type	Quantity	Description
Theft of explosives			None reported for the month
Loss of explosives	Rail Signals	1 railway track signal	Rail track signal unaccounted for. An employee had lost the device from his pocket while performing some duties. Signal later located.
Other	Blasting		Explosives left unsecured at Copper Mine.

## Safety

Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	No	Blasting	Shotfirer	48 Misfires : 42 Unknown, 1 Slumping, 3 Product Failure, 2 Dislocation.
None	Yes	Blasting	Shotfirer	Post blast fume generated appeared excessive.
None	Yes	Blasting	Shotfirer	Post blast fume generated appeared excessive.
Vehicle damaged	Yes	SSAN	Transport	SSAN truck fire caused by brakes over-heating.
None	Yes	Blasting	Shotfirer	Nitrous Oxide Fume generation from a fired shot. Post blast fume generated appeared excessive.
Damaged machinery	Yes	Emulsion	Shotfirer	Emergency declared after operator noticed noise and possibly smoke from Napco transfer pump. Operator was transferring emulsion when a strange noise was noticed. Operators then thought they saw smoke and shut down pump. Called an emergency and evacuated pit. Declared safe within 3 hours. Root cause identified as an over tightened set screw which in turn caused a bearing to collapse.

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Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	No	SSAN	Transport	SSAN spill on Highway. Container discharge chute lock has broken and product has spilled out for several kilometres along the Highway.
None	Yes	SSAN	Manufacture	Grass fire - ANFO plant. It is believed an electrical short outside an ANFO manufacturing building started a small grass fire which burnt an area outside the plant.
Breach of exclusion zone	Yes	Blasting	Shotfirer	Blast Site Exclusion Zone Violation - Pump crew drove light vehicle onto loaded shot during Night Shift. Barricading and signage was in place, the signage had fallen over prior to the pump crew accessing the area. The pump crew drove onto the pattern and into the area of loaded holes.
Breach of exclusion zone	Yes	Blasting	Shotfirer	Blast guard who was also shot firer left ramp to check blast. Fitter drove into area.

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# Significant explosives accidents and incidents



Safety and Health

Explosives Inspectorate

For : September 2009

## Security

Incident	Explosives Type	Quantity	Description
Loss of explosives			None reported for September 2009
Theft of explosives			None reported for September 2009
Other			None reported for September 2009

## Safety

Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	Yes	Blasting	Shotfirer	18 misfires reported for month – 1 blast design, 1 product failure, 1 dislocation, 2 initiation errors, 1 shotfirer error, 1 slumping, 2 stemming, and 9 unknown
None	Yes	Blasting	Shotfirer	A Jumbo operator drilled in close proximity to misfire
Property damage	Yes	Blasting	Transport	Brake fire on a Triple B transporting a triple load of AN prill
None	Yes	Blasting	Shotfirer	An MPU has impacted and cut a downline.
None	Yes	Blasting	Shotfirer	An excavator was cleaning up a highwall post blast and located unfired ANFO, downline and booster. Attributed to column dislocation caused by poor blast design and timing
None		Blasting	Manufacture - vehicle	While conducting maintenance on a cabover MMU, a contract fitter over jacked the cabin, which then fell forward onto the ground.
None	Yes	Blasting	Transport	A vehicle arrived at a Government Explosives Reserve with a pallet of detonating cord that had fallen over in the carry box during transport.
Personal injury	Yes	Blasting	Shotfirer	Post blast fume events were reported at four separate sites during the month. One person received medical treatment.

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Safety and Health

Explosives Inspectorate

For : October 2009

## Security

Incident	Explosives Type	Quantity	Description
Loss of explosives	Blasting	1 x PPP400 booster	A shotfirer and magazine keeper recognised a discrepancy in the count of boosters. It appeared that one had been left on the shot.
Theft of explosives			None reported for October
Other	Blasting	Not applicable	Persons unknown broke in to a compound and syphoned 400 litres Diesel. Stocktake confirmed no Emulsion or SSAN was stolen

## Safety

Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	Yes	Blasting	Shotfirer	35 misfires reported for the month : 11 initiation system failures, 2 slumping, 1 dislocation, 5 procedures, 3 blasting method, 13 unknown
None	Yes	Blasting	Manufacture	Due to bearing failure, a mixing paddle stopped on an explosive precursor chemical tank. An attempt by personnel to agitate and cool contents using a sparge has initiated a reaction, producing cloud of blue grey fume. QFRS, QPS and Hazmat attended
None	Yes	Blasting	Shotfirer	3 Post blast fume events, one a High Potential Incident of rating 3
Property damage	Yes	Fireworks	Fireworks	An unauthorised person lit an aerial firework, which then fell in a neighbouring yard and continued to fire. Property damage and a series of small grass fires resulted, which were extinguished by other party goers. Complaints were made by neighbours.
None	Yes	blasting	Store	While cutting regrowth in a magazine compound a piece of uni-flex cord was uncovered

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Explosives Inspectorate

For : November 2009

## Security

Incident	Explosives Type	Quantity	Description
Loss of explosives			None reported for November
Theft of explosives	Blasting	Starter gun and 10 to 15 primers	Alleged theft of a starter gun and 10 to 15 primers, stolen from a shotfirer vehicle whilst parked at place of residence.

## Safety

Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	No	Blasting	Shotfirer	39 misfires reported, one a high potential incident – 8 initiation system failure, 5 procedure, 4 blasting method, 2 slumping, 1 dislocation, 19 unknown.
None	Yes	Blasting	Shotfirer	A shot firer alighted from a vehicle without applying the handbrake and the vehicle has rolled 20 metres, coming to a stop after colliding with a pump.
Personal injury	Yes	Blasting	Shotfirer	Shot fired and small amount of fume generated - 0 on scale of 0-5. A high wind above the pit at time has transported dust from shot towards the CHPP. A maintenance worker was outside the CHPP at the time, and complained of irritation to eyes and nose. In line with MS procedures the worker was taken to town for medical assessment. OMS provided technical support to medical staff on symptoms and effects of post blast gases.
None	Yes	Blasting	Shotfirer	A small highwall slip occurred while the blast crew were loading the shot. No injuries were reported nor have any explosive accessories been struck.
None	Yes	Blasting	Manufacture - Vehicle	Fire on an MPU unit – the fire started below the engine bay area when oil on the exhaust pipe ignited. The fire was extinguished with a hand held extinguisher and the fire suppression system on the MPU.

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Explosives Inspectorate

For : December 2009

## Security

Incident	Explosives Type	Quantity	Description
Loss of explosives			A 15m 600ms downhole detonator lead was lost down a blast hole while the leads were being thrown out.
Theft of explosives			None reported for the month
Other	Blasting	50 kg	Fifty kilograms of explosives had been picked up by a loader underground and put into a dump truck, which then dumped the explosives on the ROM. It is thought that the explosives had misfired in a stope and had been picked up by the loader.
	Blasting	200 kg	An operator overflowed an Emulsion Phase tank at a manufacturing plant. Approximately 200 kilograms was spilt, but was contained in a bund.
		Small amount	A 30 tonne forklift was being used to pick up a prill container when a fork punctured a side wall of the container. A small amount of prill was spilled.
	Blasting	25 tonnes	A triple-B load (63 tonne) of class 5.1 SSAN prill was being transported from the manufacturing plant to a mine site, when the rear trailer stepped off the left hand verge and rolled onto its side, pulling centre trailer over as well. The Ringfeder connecting the dolly to trailer A twisted, resulting in the prime mover and trailer A remaining upright. 25 tonnes of prill was spilt through a broken feed-out door on trailer B and its failed top load covers. Contaminated prill was quarantined and later disposed of. There were no injuries.

Blasting

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## Safety

Nature of Harm	High Potential	Explosive Type	Industry Sector	Description
None	No	Blasting	Shotfirer	Thirty-four misfires reported – 4 initiation system failures, 3 column dislocations, 1 bulk product failure, 1 loading method, 1 slumping, 1 procedure error, 23 unknown
None	Yes	Blasting	Transport	Whilst travelling down a decline on a haul road, a shot utility slipped sideways on a wet road surface. The utility slid onto a dry spot and flipped onto its side. The vehicle was carrying class 1 IE and HE. There were no injuries.
None	Yes	Blasting	Shotfirer	During an overnight inspection, an OCE discovered some baited holes that had been left unstemmed and unbagged by the contract shot crew.
None	Yes	Blasting	Shotfirer	A post-blast fume breached the 1 km exclusion zone. No exposures were reported.
None	Yes	Blasting	Shotfirer	A coal mine received a complaint from a local resident, reporting an orange dust cloud and a smell following a blast. The blast itself was rated low in terms of any fume (2 out of 5), but as the smell was reported it must be assumed that the fume passed over the boundary. Normal blasting procedures took place, however there was a large amount of dust due to the very large size of the blast, and very dry and windy conditions were prevalent at the time of the blast.
Personal injury	Yes	Fireworks	Use	An employee at a Government Explosives Reserve received a minor burn while stamping out a spot fire, caused by a firework escaping from a burn-off in a bunker.
Property damage	Yes	Blasting	Use	An asphalt container pad has cracks which allow water to penetrate the subsoil, thus making it weak. A side lifter loading an explosives container, loaded with 25 tonnes of explosives, had its support legs resting on the problem area. The legs penetrated the asphalt, which could in turn have tipped the lifter on its side along with its contents.

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