

Misfire Recovery	
	When a misfired blasthole or un-detonated explosives has been discovered and it is determined that re-firing is not an option, the following process will take place:
a.	The water cart, if area is accessible, shall attempt to use the water cannon to flush out stemming material and to flush out as much explosives as possible. This will place large volumes of water into the muck pile around the blasthole which should lead to the degradation of the explosive product to the point that it will not be able to be initiated. If possible and safe to do so, the initiating explosives are to be retrieved, do not use force.
b.	Due to the complexities and different circumstances encountered when dealing with misfire recoveries, no two situations are alike, the Shotfirer in charge shall develop, in consultation with the machinery operator and OCE, a plan for recovering the misfire and the final placement of the excavated material. This plan shall be communicated to all personnel involved, including dispatch, and will be documented via the MAC-PRD-FRM-023 (Misfire Action Checklist).
c.	A waiting area, for trucks and other equipment required in the excavation process, will be set up at a designated point until required by the Shotfirer. This may be by way of establishing an exclusion zone, through signage or communication for persons not immediately required in the process.
d.	Where able, the excavator will open up an area of the shot wide enough to allow normal operations to continue when not working in the misfired area. During non-daylight hours the excavator will be relocated to other parts of the dig not affected by the misfires. The machine is to excavate to the sides of the blasthole(s) to allow the material to rill away from the misfired holes. This will expose the explosive column and again allow the water cart to be used to wash out the bulk explosive and where possible and safe to do so retrieve any initiating explosives. It is expected that there will be a hard zone around the misfired holes.
e.	The amount of ground movement along the vertical length of the blastholes will be assessed as excavation progresses. This will allow a decision to be made with regard to redrilling and blasting the area. At this point in time, it is assumed that this cannot be achieved safely due to the unknown amount of ground movement.
f.	Digging in the misfire area will be done only under the direct supervision of a Shotfirer who has been deemed to be competent in this procedure and during daylight hours.
g.	If passes are still required the Shotfirer will instruct the excavator operator to excavate material to a level below the current dig floor and back fill with non-misfired material to provide sufficient coverage over the affected area, or during the process replace the windrow around the misfire to allow machinery to pass over or around it safely.
h.	Where possible all explosives recovered shall be shown to the Blast Supervisor and/or Explosive supplier for determination on whether the explosive will be retained for further investigation or disposed of using MAC-PRD-PRO-044 (Disposal of Waste or Deteriorated Explosives). Should the explosives be required for further analysis to ascertain the cause of failure it shall be safely retained and returned to the supplier.
i.	Where excavated material, either waste or coal, has been placed into the tray of a truck and it is known, or suspected, to contain explosive that material shall be block tipped at base of an active dump where it will be covered. The intent is to avoid rehandling material, containing or suspected of containing, explosives and prevent future exposure of the explosives. Communication shall be made with the truck operator, the dump dozer operator, dispatch and the OCE regarding the load and its subsequent placement. The OCE is to contact Survey to ensure the location of the dumped material is captured prior to the material being covered and made inaccessible. The Shotfirer will note the first and last trucks time loaded and there number so survey can keep a digital record of the dump locations.
j.	Misfires should be dug during the mining process to minimize the need to dig and leave holes open or have to backfill. Thought will be given to allow safe access for the shotfirer and surveyor for inspections.
	Note: During an electrical storm, all misfire recovery activities will cease. Sufficient coverage will be placed over the misfire (such as buckets of material as determined by the Shotfirer) and the area evacuated of all personnel on foot to a safe distance. Operations may continue outside of the demarcated area, nominally 10m or, as determined by the Shotfirer and / or Supervisor.
	At all times when excavating a misfire area, consideration will be given to: <ul style="list-style-type: none"> • Safety of all personnel involved. • Limiting access to the work area to only essential traffic and persons. • Positioning of trucks whilst being loaded. • Use of a spotter where it is necessary to approach the dig face. • Where the material is to be dumped. • Sufficient cover relative to Misfire RL required. • No testing of electronic detonators.

 Document Reference - MAC-PRD-PRO-035