

## Shot firers injured by air blasts



*This photo shows the air blast damage to the shot firer's car, which was 80 metres away from the blast*

### Details of incident

Two serious incidents have occurred recently in Tasmanian mines, where shot firers and their assistants have been injured by an air blast. Both incidents could easily have resulted in serious injuries or fatalities; and both caused significant damage to the shot firers' vehicles and to mine infrastructure. The shot firers were also exposed to large quantities of firing fumes and dust following initiation of the shots.

### Contributing factors

In both incidents, the most likely cause of the air blast was the unconfined detonation of a large quantity of ammonium nitrate fuel oil (ANFO) that had fallen out of the upholes.

Investigations into these incidents found:

- the shot firers did not consider the possibility of an air blast occurring when selecting the firing locations
- problems were experienced with the pressure reducing valves on the charge up units, resulting in ANFO failing to pack sufficiently in the upholes
- in one incident, spiders were not used to hold the primers in position
- spilled ANFO may not have been adequately dissolved before firing the shots.

## Recommendations

- Consider the possibility of air blast when selecting firing locations. If possible, fire all shots from a location remote from the blast.
- Ensure that adequate compressed air pressure is available at the charging hose to pack the ANFO in upholes. This may require additional maintenance or checking of the pressure regulators.
- Ensure that when ANFO is spilt during charging, it is dissolved with water before the shot is initiated.
- Ensure that devices such as spiders are used to secure the primers in upholes.
- Communicate the dangers of air blast to charge crews and supervisors.

If you would like further information contact Workplace Standards Tasmania on:  
Telephone: **1300 366 322** (inside Tasmania) or (03) 6233 7657 (outside Tasmania)

Fax: (03) 6233 8338

Email: [wstinfo@justice.tas.gov.au](mailto:wstinfo@justice.tas.gov.au)

Internet: [www.wst.tas.gov.au](http://www.wst.tas.gov.au)



Fred Sears  
Director of Major Infrastructure  
Chief Inspector of Mines  
Workplace Standards Tasmania  
22 May 2009