DEPARTMENT OF
MINERALS AND ENERGY
WESTERN AUSTRALIA

Mining Operations Division
Department of Minerals and Energy
Mineral House, 100 Plain Street
EAST PERTH WA 6004
Phone: + 61 8 9222-3092
Fax: + 61 8 9325-2280
Email: mod@dme.wa.gov.au
www.dme.wa.gov.au

SIGNIFICANT INCIDENT REPORT NO: 108

DETONATION OF MISFIRE IN PIT FLOOR

INCIDENT

An explosion occurred whilst an excavator was cutting batters along a pit wall which had been secondary blasted to remove toe. The blast blew rocks over the machine and through the windscreen into the cabin. The operator received cuts and abrasions and was fortunate not to have sustained serious injuries.

CAUSE

The explosion was the result of the detonation of a misfire in the pit floor after contact with the excavator bucket.

Following the blast, remnants of an explosive slurry were found near the bucket. It was concluded that the explosion was most likely to have originated from a charged hole associated with the toe blast.

The reason the misfire occurred may have resulted from:

1. The downline of the charged hole not being tied into the shot.

2. The downline being damaged to the extent that it caused a cut-off to the charged hole.

COMMENTS AND PREVENTATIVE ACTION

To avoid a recurrence of this type of accident, the following action should be considered:

- The positions of all blast holes in a pattern to be surveyed, drawn on a plan and provided to the shotfirer and supervisor. The plan should have a readily identified reference point.

- All holes to be counted and compared with the survey pick up after charging. Care must be taken during charging to prevent any damage to the downlines.

- The blast pattern to be checked by the shotfirer and supervisor to ensure the correct number of holes have been charged and properly tied into the shot.

- After blasting, the shotfirer and supervisor must inspect the area to ensure all charged holes have fired and that it is safe for personnel and machinery to re-enter the area.

- Personnel involved in drilling and loading operations in the pit, to be trained in the recognition of misfires.

J M Torlach
STATE MINING ENGINEER