



**SAFETY BULLETIN NO: 69**

**SLOPE STABILITY IN OPEN CUT OPERATIONS**

**Issues:**

Over the past few years a number of wall stability problems have lead to fatalities and serious and near miss incidents in open pit operations across Western Australia.

Most recently and seriously, in January 2003 a pit technician was spotting for an excavator operator digging an ore/waste contact in an open pit, when the wall immediately above the berm where she was standing failed substantially ( $\approx 1,500$  BCM), apparently without warning. The pit technician was buried by the failed material and was later found deceased.

The Department is also aware of a number of near miss incidents, which have occurred, allegedly without warning, and have substantially affected operations for extended periods. On many of these occasions access to these areas was unrestricted or, at best, subject only to a verbal designation as a "NO GO" area.

**Precautions:**

These incidents remind us of the importance of managing geotechnical risks in open pits through an effective ground control management plan. Managers and Supervisors are reminded of their obligation to ensure that working procedures and operating policies deal effectively with (amongst other things) the following items:

- Excavations designed to take into account rock mass conditions, geological structure, groundwater, geometry, possible future cutbacks and underground portals etc
- Installation of an effective pit wall monitoring system, interpretation of the data recorded and any actions to be taken in response to the monitoring data (e.g. restricted access to failure areas and potential failure areas or increased frequency of monitoring)
- Inspection, investigation and reporting of wall instability precursors and incidents
- Identification and response to changing rock mass conditions
- Working near pit edges
- Working near batters
- Scaling of batters
- Keeping berms clear of accumulations of rock debris
- The management of groundwater in pit walls and floors, including the management of surface water run-off from nearby drainage channels
- Relevant Legislation: Sections 9-13,78 and 79 of the Mines Safety and Inspection Act 1994 and Part 13 of the Mines Safety and Inspection Regulations 1995.

Further reference to the management of geotechnical hazards in open pit excavations is made in Safety Bulletins numbers 63, 67 and 68 and Significant Incident Reports numbers 12 and 121; MOSHAB Guideline, "Geotechnical Considerations in Open Pit Mines" provides additional guidance. All of these documents can be found on the Department's web site at [www.doir.wa.gov.au](http://www.doir.wa.gov.au).

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