

# Major Pit Wall Failure

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**Three coal mine workers were seriously harmed, and unable to return to work for an extended period of time. An O&K RH 340 Excavator and a Komatsu 830E Rear Dump were also extensively damaged in the incident.**

## Open Cut Examiner Learnings



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# Incident

- Occurred at 10.40pm on night shift
- A toppling failure of the pit wall
- At approx 3pm on the day of the failure the on shift OCE identified cracking in the pit wall, and had his supervisor and superintendent verify this.
- A Geotechnical Engineer inspected the pit wall at around 4pm on the day of the failure, and recommended that operations only occur in daylight hours, and with a 30 metre standoff in place.
- The excavator was positioned approx 30metres from the pit wall at the time of the incident, but some 25 minutes prior had been operating approx 10 metres from the top of the pit wall

## RISK MANAGEMENT

- There was no risk assessment in place identifying the hazards in the work area, and the controls required.
  1. There had been a smaller failure occur prior
  2. A Slope Stability Radar had been put in to monitor the pit wall
  3. The mine's PHMP required a WRAC or JRA to be conducted following a ground movement hazard being identified and verified
  4. Working outside the SOP and SWI



## Critical Control Removed

- A Slope Stability Radar had been in place monitoring the highwall, and was removed for maintenance prior to the wall failing.
- Monitoring information provided by the SSR was not taken into consideration prior to the removal the SSR





# OCE Inspections

- **OCE's were not able to inspect the bench immediately above the active pit wall due to there being no access**

## **106 Inspecting surface excavations**

- (1) An open-cut examiner must inspect a surface mine excavation and the part of the mine near the excavation where activities, including mining activities, are to be, or are being carried out, to decide whether the level of risk is acceptable.
- (2) The inspection must be done—
  - (a) before the activities start in or around the excavation; and
  - (b) periodically, as required under the mine's safety and health management system.



**Erosion channels  
(directed towards failure)**

## OCE – Unacceptable Level of Risk

- The OCE failed to put in place an effective barrier to prevent people going into the hazardous area (bund, signage, danger tape)

### **107 Reducing unacceptable level of risk**

- (1) This section applies if, after inspecting a surface mine under section 106, the open-cut examiner decides an unsafe thing at the mine causes an unacceptable level of risk.
- (2) If it is practicable, the examiner must ensure the thing is made safe immediately.
- (3) If it is not made safe immediately, the examiner must immediately notify persons at the mine who may be exposed to the risk.
- (4) Until it is made safe, the examiner must—
  - (a) erect a barrier to prevent persons from unknowingly entering the part of the mine where the unacceptable level of risk exists

# OCE – Statutory Report

- **The OCE failed to document the identified hazardous area in the OCE shift report**

## **141 Safety inspections**

- (1) A surface mine must have a standard operating procedure for carrying out safety inspections of workplaces, including an inspection by an open-cut examiner under section 106, at the mine.
- (2) The procedure must require—
  - (a) a safety inspection to be done before an on-site activity is carried out at a workplace, and periodically while activities are carried out at the workplace; and
  - (b) the results of the inspection, including details of hazards and recommended corrective action, to be made available to the mine's coal mine workers.



## Other Contributing Factors

- Previous geotechnical recommendations not implemented
- Ineffective communications
- SOP required under Sec 117 of the QCMS&HR 2001 for “Working on spoil dumps and near excavated faces” didn’t reference the principal hazard of ground movement
- Culture

# *Questions ???*