

Coal Mining
Inspectorate,
Department of
Mineral Resources
NSW

SAFETY ALERT

Report No: SA98-04

File No: C98/2053

C98/0163

This **SAFETY ALERT** has been prepared to provide all coal mines with the earliest possible advice of 2 instances of Buried Continuous Miners and Breaker Line Supports (BLS) resulting in serious bodily injuries to two workmen. Appropriate action should be undertaken to avoid any occurrence of a similar nature.

SUBJECT: Separate instances of roof collapse during pillar extraction resulting in the serious injury of two workmen, the burial of two continuous miners and three BLS.

BACKGROUND:

INCIDENT 1: Pillar extraction had commenced in a new panel and had retreated three pillar rows without a significant goaf fall. It was observed that prominent open jointing ran parallel to the direction of mining in the fenders. Joint spacing was close, less than 1m. Coal and weak stone formed the immediate roof.

As the continuous miner was holing through the fender, into the goaf, the roof above the miner, between the remaining fender and the BLS collapsed. The fall trapped 2 workmen who were standing in front of the BLS. Both were seriously injured.

INCIDENT 2: At the time of the incident a continuous miner, together with three BLS was extracting both sides of a pillar split at shallow cover. The goaf had collapsed to the rear of the BLS. As the miner reduced the size of stook "X" at the outbye end of the fender, the roof collapsed burying the miner and all BLS. The fall overrode stook "X" and extended across the intersection, terminating in part, on a geological anomaly. The fall was a "plug" type failure which extended to the surface.

RESULTS OF INITIAL INVESTIGATION:

Whilst both incidents had unique factors operating, the common causal factor driving these collapses was a failure to correctly identify geology that could (or would likely) alter the expected behaviour of the strata. As a result of the failure to appreciate the significance of:-

Incident 1 - Close and open jointing running parallel to the lift direction in the fender, and

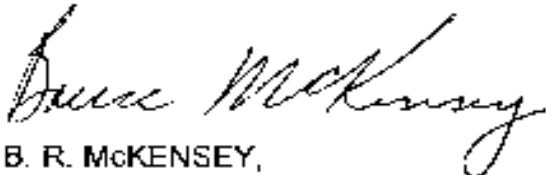
Incident 2 - A weakness plane running through an intersection, transverse to the direction of extraction.

Measures to counter the likely change in strata behaviour were not initiated.

In Incident 1, the location of the workmen who were standing between the continuous miner and the BLS was a factor in their injuries. BLS cannot be considered a guaranteed barrier preventing goaf override into the face nor, as in this instance, provide a guarantee of stability of strata between the BLS and the fender. Even if the two injured men had been standing under the BLS canopy they would have been covered by strata flushing into the BLS from the face fall.

PRELIMINARY RECOMMENDATIONS

- Mapping of geological structures, by a competent geologist, should occur prior to extraction commencing.
- A plan of management should be developed that effectively addresses the presence of geological anomalies or weaknesses that may alter expected strata behaviour during extraction.
- All persons except drivers of manual continuous miners should be removed from the immediate face area during extraction and approach no closer than 2m outbye the boom of the continuous miner whilst cutting is occurring.
- Workmen should not be permitted to stand or congregate in intersections immediately adjacent to pillar extraction operations. This exclusion should also apply to the continuous miner operator where the miner is driven by radio remote control.


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