



DEPARTMENT OF MINERALS AND ENERGY



OUR REF.

YOUR REF.

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Safety Alert

TYRE RIM ASSEMBLY FAILURE

INCIDENT:

A tyre was fitted to a new rim assembly of an earthmoving truck, inflated up to a nominal pressure, approximately 100kpa, fitted to the truck and fully inflated. Some hours later as the truck was being driven away, the tyre and tyre assembly blew from the rim.

Fortunately no one was in the vicinity.

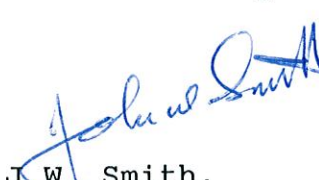
CAUSE:

The lock ring of a 5 piece assembly had peeled out of the lock ring groove. On investigation it was found not to have been fitted correctly and possibly not able to be fitted correctly. The lock ring as new was elliptical. Tests have found that circular rings or elliptical rings with the opening at the end of the minor axis will fit the groove. Rings that have the opening on the major axis of the ellipse will not fit easily and will tend to hold the two ends out of the groove.

The opening should also be placed equidistant from the lock lugs.

RECOMMENDATIONS:

1. Closely examine the shape of new lock rings.
2. Ensure the free ends of a lock ring are sitting tightly into the groove before inflation.
3. Lock ring free ends to be equidistant from lock lugs.


J.W. Smith,
Mech. Insp. of Coal Mines.
25 February 1994

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