DEPARTMENT OF MINERALS AND ENERGY
WESTERN AUSTRALIA

SIGNIFICANT INCIDENT REPORT NO. 41

HAUL TRUCK REAR WHEEL FALLS OFF

INCIDENT

A loaded haul truck ascended the access ramp of an open-cut, and was proceeding along a main haul-road when one of the vehicle's rear outside wheels literally 'fell off'. Simultaneously, the valve stem was torn from the associated inside tyre causing it to deflate, and the final drive planetary mechanism fell from the drive hub.

The driver became aware of the problem when the vehicle began to veer, and was able to stop without further damage or personal injury.

CAUSE

The wheels involved had recently been removed to facilitate a brake change-out. During assembly, dirt had inadvertently been compressed between the mating surfaces of a wheel rim adaptor ring and the drive hub. The bolts that secure the wheel (and final drive) were re-tensioned after 45 minutes service but subsequently worked loose as the compressed dirt eroded. Failure of the wheel occurred some 2 hours later.

COMMENTS AND RECOMMENDATIONS

Examination of other vehicles at the site revealed more instances of loose wheel fasteners attributable to the ingress of dirt during assembly.

The incident demonstrates a need to remind maintenance personnel of the necessity to ensure that:

- wheel rim components and drive hubs are properly cleaned and free of any material which may come between mating surfaces during assembly.
- wheel fastener tensions are checked soon after vehicles return to service.

In different circumstances, the consequences of such a wheel failure could prove to be much more serious.

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SAFETY AWARENESS SAVES LIVES