



**DEPARTMENT OF MINERALS AND ENERGY
WESTERN AUSTRALIA**

SIGNIFICANT INCIDENT REPORT NO. 43

REMOTE CONTROL LOADER FIRE IN AN OPEN STOPE

INCIDENT

An Elphinstone R2800 loader was being used in remote control mode to load ore from an open stope when the main steering supply hose ruptured causing hydraulic fluid to spray onto the turbocharger area starting a fire.

COMMENTS

On seeing the fire, the operator of the vehicle ran into the open stope and put out the fire by actuating the loader's fixed fire suppression system. A second person later went into the open stope to retrieve the loader by releasing the brakes and connecting towing chains. A second loader was used to provide a degree of protection during the retrieval.

PREVENTATIVE ACTION

Travelling in open stopes is an extremely hazardous practice. The inability to safely extinguish a loader fire could also have serious consequences for underground personnel.

To prevent an incident of this nature:

- Loaders operating in remote control mode in open stopes should be fitted with a fixed fire suppression system capable of automatic operation as well as activation from the remote control module. Actuation of the fire suppression system should automatically shut down the engine.
- Remote controlled loaders should be fitted with systems that will allow their retrieval without any persons having to enter an open stope.
- Maintenance practices should ensure that hydraulic hoses are in good condition and have the correct pressure rating and fittings, and hoses need to be supported and/or shrouded so as to eliminate wear through contact with other vehicle components.
- Shrouding or heat shielding of engine components is necessary to ensure that no exposed metal surfaces exceed a temperature of 200°C under any condition of vehicle use.
- All fixed fire suppression systems should be maintained and tested in accordance with the manufacturer's recommendations to ensure reliability.
- All electrical cables should be triple insulated where they pass through bulkheads, panels, clamps etc, terminals should be shielded or covered and electrical circuits should be protected against an over current situation.
- All fuel lines should be metal or metal braided and filters installed within metal (not plastic) containers. Fuel tanks should have non leaking caps, irrespective of the attitude of the machine.

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