



Operator of Integrated Tool Carrier Injected with Hydraulic Oil

Incident

A plant operator was changing the implements on an Integrated Tool Carrier at an underground metalliferous mine. While attempting to retract the locking pins far enough to allow the bucket to be removed, by moving the hydraulic valve lever backwards and forwards, a hose near his left hand ruptured. The oil discharging from the ruptured hose struck the operator's left thumb, bending it backwards and causing severe pain. The operator was wearing gloves at the time and when he removed the glove from his left hand he noticed that his thumb was bleeding.

The initial injury report completed at the mine stated that there was a laceration, swelling to the left thumb and swelling to the left hand.

During a physiotherapy session eight days after the accident, when the thumb swelled up it was realised that hydraulic oil had penetrated the thumb.

Cause

Wire braiding on the hydraulic hose failed owing to a combination of corrosion and fatigue. At the point of failure the rubber protection was missing.

Comments and Preventive Action

- Operators of hydraulic machinery should be protected from any potential source of high pressure fluid release.
- It should be recognised that any fluid at high pressure has the potential to cause major injury when injected into the body. The chemicals in the fluid can cause infection as well as dissolve fatty tissue.
- This incident highlights the fact that there was no awareness by the medical profession of the potential for fluid injection when using hydraulically operated systems.
- All relevant personnel should be made aware of the potential dangers of fluids at high pressure and the procedure to be followed if an injection of fluids occur.

For additional information contact Mr. R. Johnson, Inspector of Mechanical Eng. on (08) 80800622.

A handwritten signature in black ink, appearing to read "G. Torrey".

DIRECTOR MINE SAFETY AND ENVIRONMENT

