



NSW DEPARTMENT OF
PRIMARY INDUSTRIES



Partners in the profitable and sustainable development of
agriculture, fisheries, forests and minerals in New South Wales



Mine Safety Operations Branch

LONGWALL HYDRAULIC HAZARDS WORKSHOP

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LONGWALL HYDRAULIC HAZARDS WORKSHOP

■ CONGRATULATIONS!!!

- Benchmarking Safety



- Management of known hazards make NSW underground coal mines amongst the safest in the world



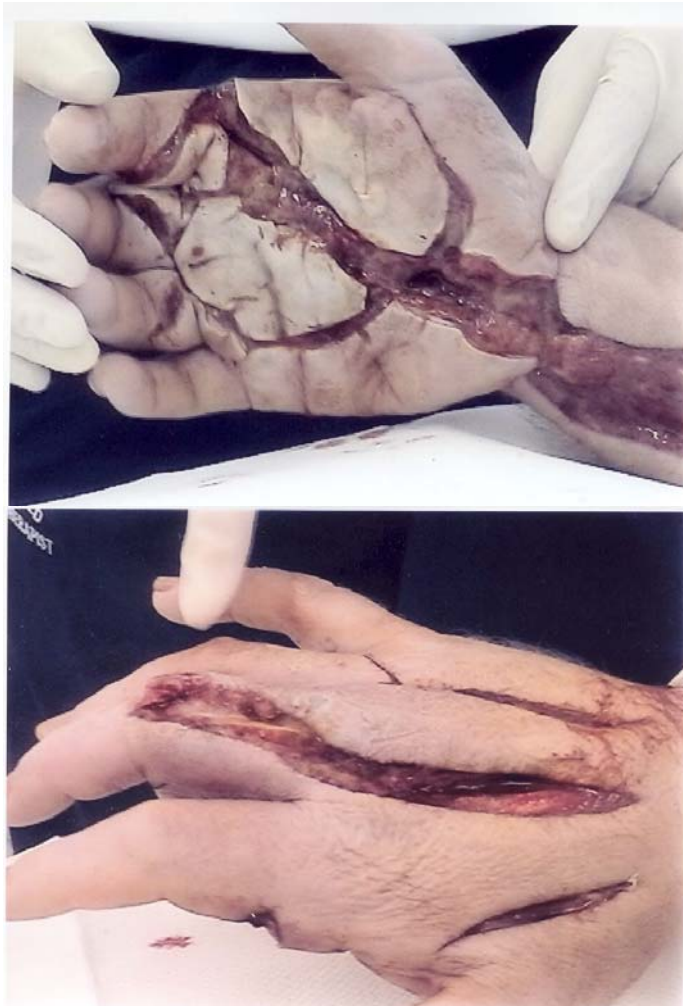
HYDRAULIC INJECTION INCIDENT

A warning to us all

Aberdeen



Hydraulic Injection caused a pinprick intrusion to the IPs hand.

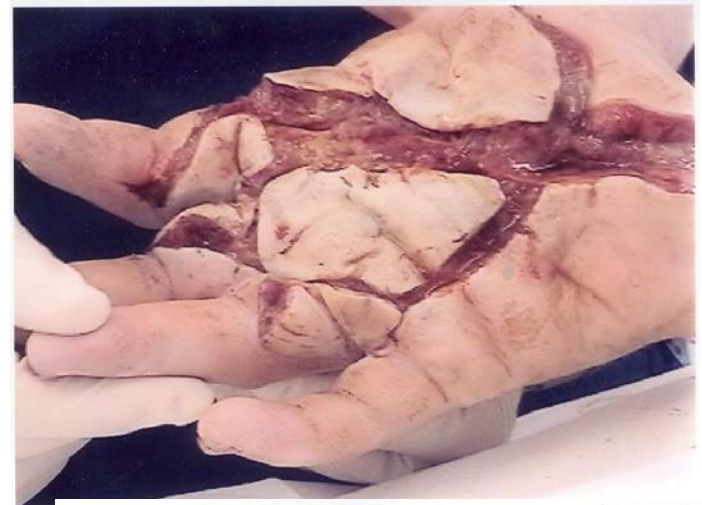


- Hydraulic Fluid in use was a Mineral Oil – Unknown at present
- Pressure of fluid was **630Bar**(approx 9,150 psi)
- Equipment in use: Scissor cutters used at Road Traffic Accidents to release occupants.
- Location of Accident: Fire Service Training Ground
- Risk Assessments were in place and Full PPE was worn.



Events

- Training Session under controlled conditions within Brigade Training Premises
- IP was to cut through sample vehicle using scissors.
- Normal practise at time was for the hydraulic hose to be run over operators shoulder to tool in use.
- Hose ruptured at ferrule area resulting in release of fluid through PPE (Leather gauntlets) to IPs hand.





What Happened Next



- IP went to A&E and initial prognosis was “keep clean and rest”.
- By chance a specialist observed and intervened.
- Mineral Oil had already started to “eat away” fatty tissues in hand and began travelling through the hand and up the arm.
- IP had 5 operations to cut away oil deposits and was on his last chance before losing arm. It was successful
- Wound could not be sutured due to tissue damage by oil so wound was gradually closed over weeks.



Results



- IP was eventually medically discharged from force and is severely disabled in this hand.
- Hydraulic Fluid in use has been changed to “Aero Shell Fluid 4”.
- Fire Brigade has passed learning's on to its associated Brigades.
- Litigation is in place:
 - IP to Brigade
 - Brigade to Equipment Manufacturers.
- IP awaits final outcome
- Timescale: 2 years and counting



LONGWALL HYDRAULIC HAZARDS WORKSHOP

- Are we **managing** the **hazards** associated **high pressure hydraulics??**
 - History of Injuries and Fatalities
 - Need for Monitoring and Measurement (Management Systems)
 - Need for equipment life cycle examination
 - Need to understand electrical engineering isolation outcomes and hydraulic pressure relationships - invoke procedures
 - Need for Competency
 - Safety Reliability – AS61508 / AS4042.1 ???
 - Safe Production



LONGWALL HYDRAULIC HAZARDS WORKSHOP

- **What's MSOB pro-actively doing?**
 - Standards
 - Guidelines
 - Workshops and information sessions
 - Investigations
 - Inspections / audits / assessments
 - Information and Web Assistance
 - Leadership / Consultation / Facilitation



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■ Lets Talk about Risk

- The Legislation
- The Workplace
- The Ethics

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- Thankyou, enjoy the workshop

