

SAFETY ALERT



HIGH PRESSURE AIR HOSE BURST ON EXPLORATION DRILL RIG

INCIDENT

A high-pressure air hose burst on a surface exploration drill rig while the driller was attempting to clear a blockage in the hose. The burst hose propelled the sample collection cyclone towards the driller who was operating the drill rig. The cyclone struck the driller with force. The driller sustained severe bruising to his body and back and could have been seriously injured or killed.

CIRCUMSTANCES

The driller was drilling a reverse circulation hole on an exploration lease using a down the hole-hammer. The air pressure used was around 250 psi. The air hose became blocked near the intake to the sample collection cyclone. The cyclone had been tied to the drill rig by a rope. While attempting to clear the blockage the hose burst just near the cyclone inlet. The force of the burst hose resulted in the cyclone moving very rapidly, breaking the retaining rope and striking the driller with considerable force.

INVESTIGATION

1. The hose had a 90-degree bend in it just before it entered the cyclone inlet. The hose burst in this area resulting in an 80-cm tear in the hose. Generally these areas on hoses have high wear rates.
2. The cyclone was tied to the drill rig by a piece of rope that broke during the incident.
3. After the incident, a locking pin was installed to prevent the cyclone from moving in a similar circumstance.

RECOMMENDATIONS

1. A risk assessment should be conducted to develop a risk management strategy for all drilling activities that are conducted with the use of high-pressure air or water. Risk assessments should consider controls to prevent high-pressure hoses and associated equipment moving in an uncontrolled manner following a failure in a high-pressure hose or pipe.
2. Develop standard work procedures for clearing high-pressure hoses.
3. Drillers and field hands should be trained in the identification and control of hazards associated with high-pressure drilling equipment.
4. Effective engineering barriers should be provided to minimise risk from failures of high-pressure hoses, eg whip checks.
5. Develop effective inspection and maintenance systems for high-pressure drilling equipment.
6. Exploration lease holders and their drilling contractors should review Section 4.2 of the Minerals Industry Safety Handbook – Exploration.

A handwritten signature in black ink, appearing to read 'R. Regan'.

R.Regan
ASSISTANT DIRECTOR SAFETY OPERATIONS