Hazard Alert

Jammed Crusher Jaws

During a visit to a surface mining plant a Ministry of Labour inspector identified metal wedges in close proximity to a rock crusher. It was revealed that the operation was using the steel wedges to assist with jams in the crusher. As per the incident mentioned below, using metal wedges in this application could result in a serious injury or fatality.

What happened?

A worker at a quarry was seriously injured when he was hit in the head by a wedge he was using to dislodge material jammed in a rock crusher.

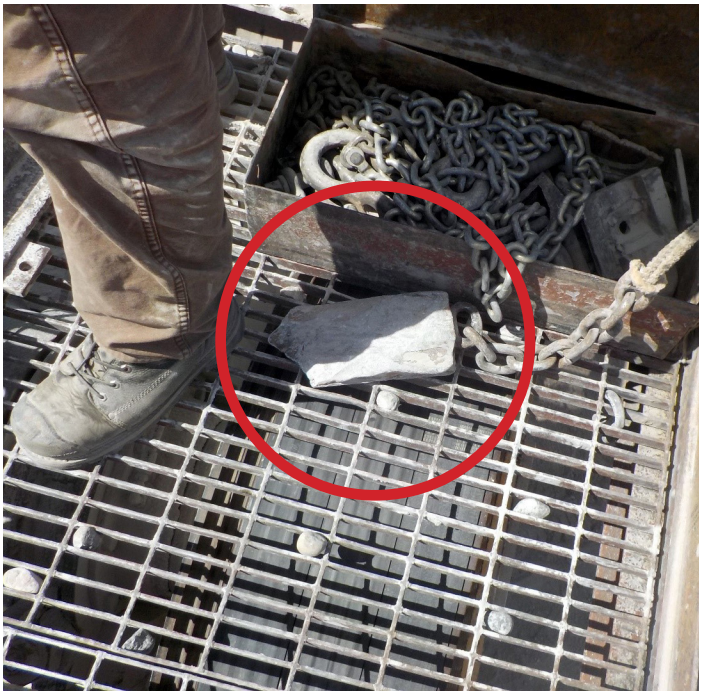
The worker was lowering a hard metal wedge on a long chain into the idling crusher. He was trying to position the wedge between the jaws and the jammed rock so the wedge could work its way through and break the rock.

The metal wedge was ejected from the crusher and struck the worker in the head.

Using hard metal wedges in a rock crusher is a practice that could result in serious injuries or fatalities.

How could the incident have been prevented?

- Oversized pieces are always present at crusher installations, so adequate equipment and procedures to handle these pieces should be set up ahead of time at every installation.
- Place oversize pieces to the side and handle separately using approved methods, such as a rockbreaker or explosives.
- Install a grid that will not allow oversize pieces into the crusher. Remove the oversized rock from the grid and break using other approved methods.
- Loader bucket teeth should never be used as crusher wedges — the hard metal may be ejected with force from the crusher.
- Check with the equipment manufacturer or supplier. If the jaw crusher is adjustable, follow proper lock-out procedures and re-adjust the openings to allow material to sink into the jaws.



Metal wedge near crusher

Resources

- Identification of Ground Control Problems - booklet
- Ground Support Reference Manual
- Quality Control Program for Ground Control - template
- Ground Control Assessment Services
- Hazard Alert: Fall of ground near scissor lift in underground mine
- Mining common core training for first-line supervisors

Contact your WSN Health and Safety Specialist for more information.

workplacesafetynorth.ca/consulting/find-your-specialist

Workplace Safety North
ONTARIO MINE RESCUE
1-888-730-7821 Toll-free Ontario
705-474-7233
workplacesafetynorth.ca

Workplace Health and Safety Snapshot for Ontario Mining Sector in 2018

22,454
Full-time employees

0 Injury **11** Disease*
Work-related fatalities

924
Total injuries

134
Lost-time injuries

4.12
Total injury rate per 100 workers

-3.10%
Change in injury rate from previous year

Events resulting in lost-time injury or illness

Injury or illness severe enough to require one or more days lost from work

45%
Bodily reaction and exertion
(excessive physical effort, free bodily motion that results in stress or strain on the body, assuming an unnatural position, and repetitive motion)

23%
Contact with objects or equipment
(struck by or against object; caught in, crushed, or compressed by equipment, objects or collapsing materials; and rubbed, abraded, or jarred by friction, pressure, or vibration)

22%
Other
(highway and non-highway incidents; contact with electric current; exposure to caustic, noxious, or allergenic substance; exposure to traumatic or stressful event; fire or explosion; and assaults, violent acts, and harassment)

10%
Falls
(falls to lower level, and falls on same level)

Most common lost-time injuries

60 **Bodily reaction and exertion**, includes injuries and illnesses resulting from repetitive motion, bending, climbing, crawling, reaching, twisting, slipping, tripping; and overexertion in lifting, pulling, pushing, carrying, or turning objects.

31 **Contact with objects and equipment**, includes struck by falling, flying, swinging or slipping object; struck by or against object; struck by or slammed in swinging door; stepped on object; caught in or compressed by equipment or object; rubbed or abraded by foreign matter; rubbed, abraded or jarred by vibration; and caught in or crushed in collapsing materials.

14 **Falls**, includes falls to floor, walkway or other surface; falls onto or against object; falls down stairs or steps; falls from ladder; and falls from non-moving vehicle.

Top 3 Occupational Diseases

Based on approved WSIB claims for healthcare, being off work, loss of wages, or permanent disability

100
Noise-induced hearing loss

29
Hand-arm vibration syndrome

15
Injury and poisoning,
includes burns, superficial injuries, heat exhaustion and toxic effects of gases, bee and wasp stings

*Disease fatality claims with a fatality effective date of 2018. Source: WSIB Enterprise Information Warehouse as of March 2019. RG 110, 113, 119. WSN June 2019.

Workplace Safety North
ONTARIO MINE RESCUE
1-888-730-7821 Toll-free Ontario
705-474-7233
workplacesafetynorth.ca

For more detailed statistics and trends
workplacesafetynorth.ca/resources/mining-statistics