

# Hazards Associated with Ore Passes and Loading Pockets

Webinar – November 5, 2012



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# Ore Passes and Loading Pockets Blitz

## AGENDA

- What MOL Inspectors will focus on during the blitz
- The goal of Workplace Safety North (WSN)
- Analysis of fatal mining incidents from 1970-2012
- Analysis of reportable occurrences: runs of material from 2002-2011
- Review of Checklist – Runs of Muck Hazards Associated with Loading Pockets and Passes

# Ore Passes and Loading Pockets Blitz

## Focus of MOL Inspectors

- Wet muck control processes in underground ore transfer system
- The design and integrity of ore pass and loading pocket systems
- Mine drainage
- Processes for mucking out shaft bottoms

# Ore Passes and Loading pockets Blitz

- Common & Direct Regulations Referred To  
(Regulation 854/90)

82.1 – Work Below Loading Pocket

84 – Movement of Bulk Material

87 – Water Accumulation

210 (6) – Skip Loading

230 (5) – Work from the Top of a Shaft Conveyance

# Ore Passes and Loading Pockets Blitz

## Focus of MOL Inspectors

- Wet muck control processes in underground ore transfer system

Inspectors will check for the presence, adequacy, and use of procedures if worker may be endangered by the withdrawal, collapse, shifting or movement of bulk material.

# Ore Passes and Loading Pockets Blitz

## Focus of MOL Inspectors

- The design and integrity of ore pass and loading pocket systems

Inspectors will check if the systems are strong enough to withstand the force of wet muck in the ore pass or chute system by checking to confirm they have an engineered design.

# Ore Passes and Loading Pockets Blitz

## Focus of MOL Inspectors

- Mine drainage

Inspectors will check if drainage infrastructure in mines is in accordance with the Act and Regulations and if there is an adequate approach to have drain holes properly maintained. Inspectors are also encouraged to review JHSC minutes for issues related to the blitz.



# Ore Passes and Loading Pockets Blitz

## Focus of MOL Inspectors

- Processes for mucking out shaft bottoms

Inspectors will check if before the commencement of work or of an examination below a loading pocket in a mine shaft as required by Regulations, the loading pocket is inspected to ensure that the work or examination can proceed safely.

# Ore Passes and Loading Pockets Blitz

## The Goal of Workplace Safety North (WSN)

- Raise awareness of hazards associated with ore passes and loading pockets
- Promote compliance with legislation and best work practices
- Assist employers to identify and control associated hazards
- Improve health and safety for workers in underground mines

# Fatal Traumatic Incident Analysis 1970-2012

|                                |    |       |
|--------------------------------|----|-------|
| • Explosives                   | 16 | 4.6%  |
| • Fall of Rock                 | 78 | 22.3% |
| • Fall of Person               | 52 | 14.9% |
| • Fall Caught Struck by Object | 44 | 12.6% |
| • Asphyxiation                 | 9  | 2.6%  |
| • Burns                        | 5  | 1.4%  |
| • Cardiac                      | 3  | 0.9%  |
| • Drowning                     | 4  | 1.1%  |
| • Electrical Shock             | 4  | 1.1%  |
| • Miscellaneous                | 1  | 0.3%  |
| • Run of Muck                  | 35 | 10%   |
| • Transportation               | 98 | 28.1% |

# Reportable Occurrences – Injury Notice Regulation 854 Sec. 21 (5)(i)

- (5) In addition to the occurrences referred to in section 53 of the Act, a notice in writing shall be given where,
- (i) an unexpected and uncontrolled run of material, water or slimes in excess of one cubic metre occurs that could have endangered a worker.

# Reportable Occurrences: Runs of Material Incidents & Categories 2002-2011

Total Incidents - 100

- \* Runs of Muck Underground - 56 Incidents
- \* Incidents at Loading Pockets - 14 Incidents
- \* Muck Falling Down the Shaft - 30 Incidents

# Causes of Runs of Water Underground

- Overflowing sumps
- Punctured fill barricades
- Dust suppression sprays
- Spring run off
- Known wet passes
- Leaking fill lines
- Seepage from near by pits in spring
- Broken water lines

# Causes of Run of Muck Underground

- Runs of water into ore pass
- Dumping wet sand fill into ore passes
- Impounded water in raise bore holes being reamed
- Malfunctioning chute gates
- Adding water to muck in passes that was sticking due to the presence of wet muck and fines
- Failing to pull the pass for a number of days

# Causes of Muck Down the Shaft

- Operator not following proper procedure
- Faulty measuring device
- Clearing a hung up rock
- Manually activating the solenoid of the discharge door in the wrong compartment by the skip tender
- Bin probe not reset after repairs
- Defective relay put skip too low
- Hopper door staying open
- Arc gate not closing
- Transfer car cylinder failure
- Catch pit failure



# Checklist - Runs of Muck Hazards Associated with Loading Pockets and Passes

- Awareness & Compliance with OHSA and Regulations for Mines and Mining Plants
- Awareness & Compliance with Training – Common Core & Specialty Modules
- Mine Drainage – Drain Holes and Ditches
- Mine Drainage – Sumps
- Backfill System
- Loading Pockets and Ore Passes
- Chute Assemblies at Loading Pockets and Ore Passes
- Wet Muck Control in Underground Ore Transfer System
- Mucking From Draw Points
- Mucking Shaft Bottom

# Any Questions?

