MNM Fatalities - 2018
MNM vs COAL

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<th>Year</th>
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<td>2018</td>
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Accident Type

- Powered Haulage: 53%
- Machinery: 6%
- Roof/Highwall Fall: 13%
- Explosives: 7%
- Ignition of Gas: 7%
- Non Powered Haulage: 7%
- Other: 7%
VICTIM’S AGE

- 60 & over = 4
- 40s = 5
- 30s = 1
- 20s = 4
- 50s = 1
- 60 & over = 4
VICTIM’S MINING EXPERIENCE

- Less than 1 year: 20%
- 1-9 years: 27%
- 10-19 years: 33%
- 20+ Years: 20%
Victim’s Mine Site Experience

- 47% Less than 1 year
- 33% 1-9 years
- 13% 10-29 years
- 7% 30+ years
SHIFT FATAL OCCURRED

- 60% 1st Shift 7am – 3pm
- 20% 2nd Shift 3pm – 11pm
- 20% 3rd Shift 11pm – 7am
MNM Fatal #1 – Iowa

- Thursday, January 25, 2018
- Surface – Sand and Gravel
- Powered Haulage
- Equipment Operator
- 38 Years Old
- 4 Years Mining Experience
MNM Fatal #1 – Iowa

• While hauling from the pit to the stockpile, the truck traveled through a berm and into an ice-covered pond.
• The victim was found drowned in cab of truck.
MNM Fatal #1 – Best Practices

• Do not operate heavy equipment when fatigued. The effects of fatigue include tiredness, reduced energy, and physical or mental exhaustion.

• Maintain control and stay alert when operating mobile equipment. Monitor persons routinely to determine safe work procedures are followed.
MNM Fatal #1 – Best Practices

- Conduct pre-operational checks and correct safety defects in a timely manner prior to operating equipment.
- Maintain braking and steering systems in good repair and adjustment.
- Operate at speeds consistent with the conditions of roadways, tracks, grades, clearance, visibility, curves, and traffic.
MNM Fatal #2 – Utah

- Tuesday, March 14, 2018
- Surface – Sand and Gravel
- Machinery
- Crusher Mechanic
- 56 Years Old
- 15 Years Mining Experience
MNM Fatal #2 – Utah

- The victim was installing a discharge chute assembly on a vibrating screen deck.
- It hung up while being lowered.
- The victim was attempting to free the assembly with a 30-inch pry bar.
- The suspended chute shifted and struck him in the head.
MNM Fatal #2 – Utah
• Stay clear of suspended loads.
• Do not place yourself in a position that will expose you to hazards while performing repair or maintenance tasks.
• Position yourself only in areas where you will not be exposed to hazards resulting from a sudden release of energy.
MNM Fatal #2 – Best Practices

- Establish and enforce safe work procedures.
- Identify and remove hazards before beginning repair or maintenance tasks.
- Follow the equipment manufacturer's procedures for the work being performed to ensure that all hazards have been addressed.
MNM Fatal #3 – Texas

- Thursday, April 12, 2018
- Surface (Dredging) – Sand and Gravel
- Powered Haulage
- Customer Truck Driver
- 60 Years Old
- 20 Years Experience
MNM Fatal #3 – Texas

- The victim was attempting to scan into the operator’s check-in system.
- He fell from and was run over by his truck.
- He was found underneath the belly dump of the semi-trailer.
- The truck was still in gear.
MNM Fatal #3 – Texas
MNM Fatal #3 – Best Practices

- Implement check-in system technology that can be scanned remotely from inside the vehicle.
- Set park brake and place vehicle in the park position prior to leaving cab.
- Ensure workers who operate equipment are adequately informed, instructed, trained, and supervised.
MNM Fatal #4 – Alabama

- Wednesday, May 9, 2018
- Surface – Lime
- Ignition or Explosion of Gas
- Kiln Technician
- 27 Years Old
- 32 Weeks Experience
MNM Fatal #4 – Alabama

- The victim was burned while lighting a gas-fired kiln.
- There was a blow back when igniting the kiln causing the miner to receive burn injuries to his head and chest.
- The miner succumbed to his injuries on May 28, 2018.
MNM Fatal #4 – Alabama
MNM Fatal #4 – Best Practices

• Remove flammable and combustible materials from areas prior to cutting, welding, or other hot work. A qualified person should monitor nearby areas where heavy vapors could migrate and accumulate.

• Ventilation systems should be properly designed, installed, and maintained.
• Install fixed monitoring systems with alarms in areas with potential for flammable and other hazardous atmospheres.
• Calibrate and maintain them regularly.
• The systems should have redundant controls and system readouts located inside and outside of hazardous areas.
MNM Fatal #5 – Texas

- Wednesday, June 13, 2018
- Surface – Sand and Gravel
- Powered Haulage
- Truck Driver
- 65 Years Old
- 4 Years Experience
MNM Fatal #5 – Texas

- The victim traveled over a berm and into an impoundment of water.
- Divers recovered the victim in 20 feet of water.
MNM Fatal #5 – Texas
MNM Fatal #5 – Best Practices

- Maintain control and stay alert when operating mobile equipment.
- Conduct adequate pre-operational checks and correct any defects affecting safety in a timely manner prior to operating mobile equipment.
- Maintain braking and steering systems in good repair and adjustment.
MNM Fatal #5 – Best Practices

- Operate mobile equipment at speeds consistent with the conditions of roadways, tracks, grades, clearance, visibility, curves, and traffic.
- Ensure that berms are adequate for the vehicles present on site, including but not limited to height, material, and built on firm ground.
MNM Fatal #6 – Texas

- Saturday, June 23, 2018
- Surface – Sand and Gravel
- Non - Powered Haulage
- Electrician
- 46 Years Old
- 10 Weeks Experience
MNM Fatal #6 – Texas

• The victim was trying to stop runaway railcars.
• The victim ran to the front of a set of moving railcars and jumped on in order to set the hand brake.
• He then attempted to jump clear and was fatally injured when he was run over by the moving railcars.
MNM Fatal #6 – Texas
• Apply a mechanical hand brake to ensure a railcar does not move when it is stopped for loading, unloading, or storage. Use wheel chocks or derail devices for added protection against accidental movement.

• Never attempt to mount, crossover, cross under, or dismount a railcar while it is moving.
MNM Fatal #6 – Best Practices

• Train personnel in the safe procedures of working with railcars.
• Establish and enforce safe work procedures and ensure all personnel involved communicate clearly with each other.
MNM Fatal #7 – North Dakota

• Saturday, June 23, 2018
• Surface – Sand and Gravel
• Powered Haulage
• Foreman
• 62 Years Old
• 40 Years Experience
MNM Fatal #7 – North Dakota

• The victim was dismantling a portable crusher.
• The front-end loader was placing a 20-foot-long steel tube onto the screen feed conveyor.
• The loader operator lowered the bucket and crushed the victim against the conveyor structure.
MNM Fatal #7 – North Dakota
MNM Fatal #7 – Best Practices

• Equipment operators must ensure personnel are not near the machine when in operation.
• Use cranes with appropriate rigging and tag lines to position components.
• When working near equipment, make eye contact with the equipment operator and directly communicate your intended movements.
MNM Fatal #7 – Best Practices

- Wear a reflective vest or clothing.
- Ensure all persons are trained to recognize workplace hazards - specifically, the limited visibility and blind areas inherent to operation of large equipment.
- Prior to starting task, train miners on proper maintenance procedures and discuss steps that will be taken to safely perform the job.
MNM Fatal #8 – Tennessee

- Wednesday, August 8, 2018
- Surface
- Deemed Non-Chargeable
MNM Fatal #9 – Pennsylvania

- Wednesday, August 22, 2018
- Surface – Traprock
- Powered Haulage
- Groundman
- 29 Years Old
- 1 Year Experience
MNM Fatal #9 – Pennsylvania

- The victim was injured while cleaning a snub pulley.
- He was working from an aerial lift located under the belt conveyor when he became entangled in the conveyor pulley.
MNM Fatal #9 – Pennsylvania
MNM Fatal #9 – Best Practices

- Ensure persons assigned to clean conveyor belts have received adequate training and verify that safe work practices are followed.
- Stay clear of moving equipment and do not reach into any part of a moving conveyor.
- Avoid wearing loose-fitting clothing when working around moving conveyor belt components.
MNM Fatal #9 – Best Practices

- Verify that all incoming power connectors are open by a circuit breaker, the conveyor is stopped and secured from movement before working on belt conveyors.

- Provide and maintain safe access to elevated areas where routine maintenance is performed.
MNM Fatal #10 – New York

- Tuesday, October 2, 2018
- UG – Lead-Zinc Ore
- Exploding Vessels under Pressure
- Contractor: Foreman
- 40 Years Old
- 20 Years Experience
MNM Fatal #10 – New York

- The victim was attempting to clean out a previously blasted drill hole with a high-pressure air hose.
- A sudden release of pressure from inside the hole forced material to be ejected from the hole and struck him.
- The victim died of his injuries.
MNM Fatal #10 – New York
**MNM Fatal #10 – Best Practices**

- Never position yourself directly over or in front of the collar of a borehole when cleaning it out.
- Assess the suitability of blasting methods when blasts do not perform as intended.
- Use water to clean out the bottom of boreholes used for blasting.
- Ensure miners are adequately task trained.
MNM Fatal #11 – Virginia

- Thursday, October 11, 2018
- Surface – Granite
- Falling / Sliding Material
- Laborer
- 26 Years Old
- 3 Years Experience
MNM Fatal #11 – Virginia

- The victim was standing on top of a freshly cut block of granite.
- Water was applied to the bladders between the rock and highwall to move the rock.
- The block slid at the bottom causing him to lose his balance and fall between the block and the highwall.
MNM Fatal # 11 – Virginia
MNM Fatal #11 – Best Practices

- Install fall protection systems that allow safe movement to perform work.
- Conduct examinations of working places to identify loose ground or unstable conditions before work begins and as changing conditions warrant.
- Ensure the person conducting the exam has the training and experience to recognize potential hazards.
MNM Fatal #12 – Montana

- Friday, November 19, 2018
- Surface – Dimension Stone
- Powered Haulage
- Quarry Manager
- 63 Years Old
- 17 Years Experience
MNM Fatal # 12 – Montana

- The victim lost control of the haul truck while driving.
- He was going down a steep grade and traveled through a berm and over a short drop-off.
- He was not wearing a seat belt.
MNM Fatal # 12 – Montana
MNM Fatal # 12 – Montana

- Always wear a seat belt when operating mobile equipment.
- Maintain control and stay alert when operating mobile equipment.
- Conduct adequate pre-operational checks and correct any defects affecting safety in a timely manner prior to operating mobile equipment.
Operate equipment at speeds consistent with the conditions of roadways, tracks, grades, clearance, visibility, curves, and traffic.

Ensure berms are adequate for the vehicles present on site.

Berms should be constructed of appropriate materials, be of adequate height, and be built on firm ground.
MNM Fatal # 13 – New Mexico

- Thursday, October 25, 2018
- Surface – Copper Mine
- Other Accident
- Contractor: Laborer
- 29 Years Old
- 9 Weeks Experience
MNM Fatal # 13 – New Mexico

- The victim’s truck veered off the haul road and climbed an embankment which caused the truck to overturn.
- He was not wearing a seat belt.
MNM Fatal # 13 – New Mexico
Always wear your seat belt when operating mobile equipment.

Drive at speeds consistent with the conditions of roadways, tracks, grades, clearance, visibility, curves, and traffic.

Maintain control and stay alert when operating mobile equipment, especially vehicles with high centers of gravity.
MNM Fatal # 14 – Nevada

- Thursday, October 25, 2018
- UG – Gold Mine
- Fall of Roof / Back
- Powderman
- 42 Years Old
- 13 Years Experience
The victim was loading explosives in the face when the back fell.

The back was comprised of cemented backfill and weighed about 150 tons.
When ground conditions create a hazard to persons, install additional ground support before other work is permitted in the affected area.

Implement a robust quality control program to ensure cemented rock fill is mixed and placed properly, especially when it constitutes the main method of ground support.
MNM Fatal #14 – Best Practices

• Examine and test ground conditions where work will be performed and as warranted during the shift. Be alert for changing conditions after activities that could cause roof disturbance.

• Task train all persons to recognize all potentially hazardous conditions and ensure they understand safe job procedures for elimination of the hazards.
MNM Fatal # 15 – Michigan

- Saturday, November 3, 2018
- Surface – Limestone Mine
- Powered Haulage
- Shift Supervisor
- 44 Years Old
- 3 Years Experience
The victim’s pick-up truck was ran over by a CAT 785B Haul Truck.
MNM Fatal # 15 – Michigan
MNM Fatal #15 – Best Practices

- Communicate and verify with all equipment operators your planned movements and location upon entering a work area.
- Train all persons to recognize hazards.
- Train operators on the limited visibility and blind spot areas that are inherent to the operation of large equipment.
MNM Fatal #15 – Best Practices

• Do not drive or park smaller vehicles in equipment's potential path of movement.
• Use flags or strobe lights on the cabs of vehicles to make haulage truck operators aware of your location.
• Install and maintain collision avoidance or warning technologies on mobile equipment.
MNM Fatal # 16 – Nevada

- Sunday, November 11, 2018
- UG – Gold Mine
- Powered Haulage
- Underground Technician / Mucker Operator
- 45 Years Old
- 8 Years Experience
MNM Fatal # 16 – Nevada

• The victim was ran over by the Load-Haul-Dump machine he had been operating.
MNM Fatal # 16 – Nevada
• Set the parking brakes to block LHDs against motion. Turn the tires toward the rib and lower the bucket to the floor. Use wheel chocks.

• Before beginning a task, discuss the work procedures, identify all possible hazards, and ensure steps are taken to safely perform the task.
MNM Fatal #16 – Best Practices

- Ensure all braking systems function properly when the engine is operating and when it is shut off.
- Do not depend on hydraulic systems to hold equipment in a stationary position.
- Conduct adequate pre-operational examinations on all self-propelled equipment and promptly correct any defects affecting safety.
Summary

• Examine each working place for conditions that may affect the safety or health of miners.
• Examine the working place at least once a shift and before miners begin work in that area.
• If you see a hazardous condition, fix it or report it so it can be fixed.
• Do not position yourself in a hazardous position.
• Follow and enforce all safety rules and procedures.
SLAM the Risks

- **Stop** – Take a few minutes to think about the task you are about to perform.
- **Look** – Identify hazards that will be encountered while performing the task.
- **Analyze** – Determine what safety procedures are needed; where is the safe place to stand.
- **Manage** – Take action to protect yourself and others from the hazards.
Thank You