

Summary of 2012 1st Quarter Fatal Accidents at Metal/Nonmetal Mines and Preventative Recommendations

During the first quarter of 2012, four miners were killed in accidents in the metal and nonmetal mining industry.

One miner died as a result of a **Powered Haulage** accident. Two miners were killed in **Fall of Face/Rib/Highwall** accidents and one miner died in a **Fall of Person** accident. We need to work together to prevent additional fatalities.

When completed, a detailed investigation report of each death is posted on the MSHA website at:

<http://www.msha.gov/fatals/fab.htm>

Here are brief summaries of these accidents:

One miner was killed when he was involved in a Powered Haulage accident.

A 69 year-old mobile equipment operator with 48 years of experience was killed at a cement operation. The victim was cleaning a tailpiece with a skid steer loader. He backed the loader in a drainage ditch, traveled in reverse about 150 feet, and went into a 5½-foot deep water hole and drowned.

Two miners were killed in Fall of Face/Rib/Highwall accidents.

A 40 year-old mine owner with 8 years of experience was killed at a shale operation. The victim was operating an excavator with a rock breaker attachment. He was breaking and mining material from a near vertical wall when the face fell onto the cab of the excavator, crushing him.

A 54 year-old mine owner with approximately 25 years of experience was killed at an underground gemstone mine. He was cleaning fine ore with a shovel and loading it in the bucket of a front-end loader when rock fell from the top left rib about 20 feet high. The victim was working alone. The mine owner (victim) had previously notified MSHA that this mine was abandoned.

One miner died in a Fall of Person accident.

A 46 year-old plant mechanic with 7 years of experience was injured at a crushed stone operation when he fell 16 feet from an elevated walkway of a conveyor to the ground below. The victim and a coworker had been bolting a snub pulley in position. The coworker was positioned on a walkway on the other side of the belt. The victim was hospitalized and died four days later.

Best Practices

Miners do not need to die while working at metal and nonmetal mining operations. These deaths can be prevented. No miner should die while working. Effective safety and health management programs save lives. Workplace

examinations can identify and eliminate hazards that kill and injure miners. Effective and appropriate training will help ensure that miners recognize and understand hazards and how to control or eliminate them.

While some of the specific circumstances of these accidents remain under investigation, here is what we know now about these types of accidents:

Powered Haulage Accidents

These types of deaths can be prevented by following well-known precautions:

- Ensure that persons are task trained and understand the hazards associated with the work being performed.
- Ensure that equipment operators are familiar with their work environment at all times.
- Ensure that safety precautions are taken based on weather and lighting conditions.
- Keep mobile equipment a safe distance from the edge of water or embankments.
- Barricade or post warning signs at all approaches in areas where health or safety hazards exist that are not immediately obvious to all persons. Warning signs shall be readily visible, legible, and display the nature of the hazard and any protective action required.
- Provide and maintain berms or guardrails on the banks of roadways where a drop-off exists of sufficient grade or depth to cause a vehicle to overturn or endanger persons in equipment.
- Monitor work activities routinely to determine that safe work procedures are followed.
- Operate equipment in a manner that maximizes visibility. Use a spotter when visibility of the work or travel area is limited.

Fall of Face/Rib/Highwall Accidents

These types of deaths can be prevented by following well-known precautions:

- Operate excavators with the cab and tracks perpendicular to – and away from – the highwall.
- Bench or slope the material to maintain stability and to safely accommodate the type of equipment used. Do not undercut material on the face of a slope, bank, or highwall.
- Examine highwalls, slopes, and banks from as many perspectives as possible (bottom, sides, and top/crest) while maintaining the safety of the examiner(s). Look for signs of cracking, bulging, sliding, toppling or other signs of instability. Record the type and location of hazardous conditions.

- Use auxiliary lighting during non-daylight hours to conduct highwall examinations and to illuminate active work areas.
- Perform supplemental examinations of highwalls, banks, benches, and sloping terrain in the work area.
- Immediately remove all personnel exposed to hazardous ground conditions and promptly correct any unsafe conditions. When the conditions can not be corrected, barricade and post signs to prevent entry.
- Remove loose or overhanging material from the face. Work from a safe location when correcting hazardous conditions.
- Examine work areas and identify and control all hazards before starting any work.
- Establish safe work procedures and train all persons to recognize and understand these procedures.
- Always examine, sound, and test for loose ground in areas before starting to work, after blasting, and as ground conditions warrant.
- Test for loose material frequently during work activities and, where necessary, scale loose material safely.
- Install ground support in roof and ribs where conditions warrant.
- Do not perform work alone in any area where hazardous conditions exist that would endanger your safety.

Fall of Person

These types of deaths can be prevented by following well-known precautions:

- Establish and discuss safe work procedures. Before starting any work, identify and control all hazards.
- Train all persons to recognize and understand safe job procedures, including the proper use of fall protection.
- Always use fall protection when working where a fall hazard exists.
- Install railings or cables when persons are required to work or travel near the edge of a structure.

Violations of the priority standards identified as **Rules to Live By** continue to play key roles in mine fatalities. While not all of the fatality investigations have been completed, not all of the violations have been identified, and not all of the associated citations and orders have been issued, it currently appears that violations of the Rules to Live By standards were involved in several of those fatalities. MSHA's inspectors will be especially mindful of these issues while performing inspections. They will be talking to miners and mine supervisors in mines throughout the country to discuss these kinds of fatalities, and the ways to prevent them.

Contractors

No contractors were killed at mining operations in the first quarter of 2012. However, contractors and mine operators should ensure that contractor employees are properly trained and follow the mine's safety policies and procedures. Contractors and mine operators should coordinate operations at the mine to ensure that safety and health management programs are in place and are effective, all workplace examinations are performed, and safe work procedures are followed.

The importance and value of effective **safety and health management programs** cannot be overstated. A thorough, systematic review of all tasks and equipment to identify hazards is the foundation of a well-designed safety and health management program. Modify equipment, processes, work procedures and management systems to eliminate or control identified hazards. Operators and contractors should create effective safety and health management programs, ensure that they are implemented, and periodically review, evaluate, and update them.

If an accident or near miss does occur, find out why and act to prevent recurrence. If changes to equipment, materials or work processes introduce new risks into the mine environment, they must be addressed immediately.

Conducting **workplace examinations** before beginning a shift and during a shift – every shift – can prevent deaths by finding and fixing hazards. All required workplace examinations must be performed and identified hazards eliminated to protect miners.

Providing effective and appropriate **training** to miners is a key element in ensuring their safety and health. Mine operators and Part 46 and Part 48 trainers need to train all miners to recognize the conditions that lead to deaths or injuries and ensure that measures are taken and followed to eliminate hazardous conditions. Training all miners to follow safe work procedures and stay focused on the task they are performing cannot be stressed enough.

Miners deserve a safe and healthy workplace and the right to go home safe at the end of every shift, every day. Working together, we can make that happen.