



Fatality #16 - December 15, 2011

**Machinery - Pennsylvania - Crushed, Broken Stone NEC
Damascus 535 Crushing - Damascus 535 Crushing**

METAL/NONMETAL MINE FATALITY - On December 15, 2011, a 22 year-old laborer with 3 months of experience was killed at a surface stone operation. The victim, who was last seen on a control tower, fell into an operating jaw crusher.



Best Practices

- Always use fall protection when working where a fall hazard exists.
- Establish policies and procedures for safely clearing plugged material in a jaw crusher.
- Ensure that persons are task trained and understand the hazards associated with the work being performed.
- Deenergize and Lock-out/tag-out all power sources before working on crushers.
- Do not place yourself in a position that will expose you to hazards.
- Monitor personnel routinely to determine that safe work procedures are followed.

This is the 16th fatality reported in calendar year 2011 in the metal and nonmetal mining industries. As of this date in 2010, there were 30 fatalities reported in these industries. This is the 4th Powered Haulage fatality in 2011. There were 3 Machinery fatalities in the same period in 2010.

The information provided in this notice is based on preliminary data ONLY and does not represent final determinations regarding the nature of the incident or conclusions regarding the cause of the fatality.



Fatality #13 - November 7, 2011
Machinery - Construction Sand and Gravel
Anderson Sand & Gravel - Anderson Sand & Gravel

METAL/NONMETAL MINE FATALITY - On November 7, 2011, an 82 year-old owner/crusher operator with 27 years of experience was killed at a surface crushed stone operation. The victim was attempting to dislodge material from the vibrating feed hopper when he slipped or fell into the operating jaw crusher.



Best Practices

- Establish policies and procedures for safely clearing plugged material in a feed hopper. Evaluate design modifications or use auxiliary equipment to reduce the risks associated with clearing an obstruction.
- Ensure that persons are task trained and understand the hazards associated with the work being performed.
- Deenergize and Lock-out/tag-out all power sources before working on crushers.
- Provide and maintain a safe means of access to all working places.

This is the 13th fatality reported in calendar year 2011 in the metal and nonmetal mining industries. As of this date in 2010, there were 18 fatalities reported in these industries. This is the 2nd Machinery fatality in 2011. There were 2 Machinery fatalities in the same period in 2010.

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Fatality #1 - February 12, 2011
Machinery - Florida – Phosphate Rock
C F Industries Inc - Hardee Phosphate Complex

METAL/NONMETAL MINE FATALITY - On February 12, 2011, a 41 year- old grader operator with 15 years of experience was killed at a phosphate rock operation. The victim and a coworker were standing and talking when he was struck by a grader that was backing up. The accident occurred in a staging area where equipment operators were inspecting their equipment before the shift.



Best Practices

- Train all persons to recognize work place hazards and to stay clear of normal paths of travel for mobile equipment.
- Regularly monitor work practices and reinforce their importance. Take immediate action to correct unsafe conditions or work practices.
- Designate a specific area, clear of mobile equipment, where persons can meet before the shift starts.
- Install cameras and collision avoidance systems on mobile equipment to protect persons.
- Ensure that illumination is adequate at the work site.
- Before moving mobile equipment, look in the direction of travel, use all mirrors, cameras, backup alarms, and installed proximity detection devices to ensure no one is in the intended path.
- Sound the horn to warn persons of movement and allow time to move to a safe location.
- Communicate with mobile equipment operators and ensure they acknowledge your presence.
- Wear high visibility clothing when working around mobile equipment.
- Consider use of wearable strobes when near mobile equipment.

This is the 1st fatality reported in calendar year 2011 in the metal and nonmetal mining industries. As of this date in 2010, there were 2 fatalities reported in these industries. This is the 1st Machinery fatality in 2011. There were no Machinery fatalities in the same period in 2010.



Fatality #7 - May 23, 2012

Machinery - Oklahoma - Construction Sand and Gravel

Meridian Aggregates Company, A Limited Partnership - Broken Bow Sand & Gravel

METAL/NONMETAL MINE FATALITY - On May 23, 2012, a 36 year-old foreman with about 9½ years of experience was killed at a sand and gravel operation. He was operating an excavator on a dike separating two ponds. The ground beneath the excavator tracks failed and the excavator toppled into one of the ponds.



Best Practices

- Examine work areas to identify all hazards and remediate before starting any work.
- Evaluate the stability of the ground (slopes and berms) prior to operating equipment near any drop off or edge.
- Always be attentive to changes in ground conditions and visibility when operating machinery.
- Perform the work at a safe distance away from the edge of a pond or where the stability of the ground may be unknown.
- If a potential hazard is present, use long reach equipment to limit exposure and maintain a safe distance away.
- Consider areas that have experienced previous slope failures to be unstable and do not approach until the area is evaluated for stability.
- Wear flotation devices where there is a danger of falling into water.
- Be alert to changes in ground conditions such as cracking, bulging, sloughing, undercutting, and erosion.

This is the 7th fatality reported in calendar year 2012 in the metal and nonmetal mining industries. As of this date in 2011, there were 5 fatalities reported in these industries. This is the 1st Machinery fatality in 2012. There was 1 Machinery fatality in the same period in 2011.



Fatality #14 - September 26, 2012
Machinery - California - Sand & Gravel
Eagle Peak Rock and Paving - North Pit

METAL/NONMETAL MINE FATALITY - On September 26, 2012, a 79-year old foreman with 56 years of experience was killed when he was run over by the dozer he had been operating. The victim exited the cab and was positioned on the left track checking the engine throttle linkage when the dozer moved forward.



Best Practices

- Inspect equipment before placing it in operation for the shift.
- Correct safety and operational defects on equipment in a timely manner to prevent the creation of a hazard to persons.
- Establish safe work procedures and identify and remove hazards before beginning a task.
- Prior to beginning work, ensure that persons are task-trained and understand the hazards associated with the work being performed. Know and follow safe work procedures before beginning repairs.
- Block dozer against motion by lowering the blade and ripper to the ground and setting the parking brake. Set the transmission lock lever to ensure the transmission is in neutral.
- Do not place yourself in a position that will expose you to hazards while performing a task.
- Monitor personnel routinely to determine that safe work procedures are followed.
- This is the 14th fatality reported in calendar year 2012 in the metal and nonmetal mining industries. As of this date in 2011, there were 10 fatalities reported in these industries. This is the 2nd Machinery fatality in 2012. There was 1 Machinery fatality in the same period in 2011.

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Fatality #17 - November 1, 2012
Machinery – New York – Common Shale
Northeast Solite Corp – Mount Marion Pit and Mill

METAL/NONMETAL MINE FATALITY - On November 1, 2012, a 30-year old contract driller with 6 years of experience was killed at a common shale operation. The victim apparently attempted to thread a new drill steel manually, with the use of a strap and the drill head rotating, when the rotating steel entangled him.



Best Practices

- Establish and discuss safe work procedures. Identify and control all hazards. Train all persons to recognize all potential hazards and understand safe job procedures to eliminate all hazards before beginning work.
- Ensure that the manufacturer's procedures are followed when adding drill steels.
- Ensure that emergency stop/shut-off switches, panic bars, dead man devices, tethers, slap bars, rope switches, two handed controls, spring loaded controls, are functional and in easily accessible locations.
- Never manually thread drill steels when the drill head is rotating.
- Drills should be fitted with automated systems for changing rods, or two persons should be present when rods are changed manually.
- Do not wear loose fitting clothing when working around drilling machinery. Avoid using a strap or other objects that could become entangled with or thrown from moving or rotating parts.
- Monitor personnel routinely to ensure procedures are followed.

This is the 17th fatality reported in calendar year 2012 in the metal and nonmetal mining industries. As of this date in 2011, there were 12 fatalities reported in these industries. This is the 6th Powered Haulage fatality in 2012. There were 2 Machinery fatalities in the same period in 2011.



Fatality #2 - January 21, 2013

Machinery – Nevada – Lime

Lhoist North America of Arizona Inc. – Apex Quarry and Plant

METAL/NONMETAL MINE FATALITY - On January 21, 2013, a 54-year old mechanic with 6 years of experience was killed at a lime operation. The victim went to a kiln pre-heat deck to repair a leaking hydraulic cylinder that activates a pusher arm on the kiln. He was caught between the corner of the angle iron and the plate connecting the push rods.



Victim caught here

Best Practices

- Establish and discuss safe work procedures. Identify and control all hazards associated with the work to be performed along with the methods to properly protect persons.
- Always follow the equipment manufacturer's recommended maintenance procedures when conducting repairs to machinery.
- Task train all persons to recognize all potential hazardous conditions and understand safe job procedures to eliminate all hazards before beginning work.
- Before working on or near equipment, ensure that the equipment power circuits are locked out/tagged out and that the equipment is blocked against hazardous motion.
- Require all persons to be positioned to prevent them from being exposed to any hazards. Monitor personnel to ensure safe work procedures, including lock out/tag out and safe work positioning, are followed.
- Ensure guarding is in place to cover potential pinch points and moving parts in areas routinely accessed by personnel.

This is the 2nd fatality reported in calendar year 2013 in the metal and nonmetal mining industries. As of this date in 2012, there were 0 fatalities reported in these industries. This is the 1st Machinery fatality in 2013. There were 0 Fall of Highwall fatalities in the same period in 2012.

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METAL/NONMETAL MINE FATALITY – On July 10, 2013, a 68-year old dozer operator with 23 years of experience was killed at a sand and gravel mine. He was pushing material with a dozer when the machine veered to the right and traveled into a water filled pit.



Best Practices

- Task train all persons to understand the hazards associated with the work being performed.
- Be familiar with your work environment. Before starting to work, thoroughly inspect the area and plan the safest way to move the material and maneuver equipment.
- Maintain control of mobile equipment while it is in motion.
- Always wear a seat belt when operating mobile equipment.
- Monitor persons routinely to determine safe work procedures are followed.

This was the 22nd fatality recorded during calendar year 2013 in in metal and nonmetal mining. As of the accident date in 2012, there were 9 fatalities reported in metal and nonmetal mining. This was the 3rd fatality classified as Machinery in 2013. There was one Machinery fatality in the same period in 2012.

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Fatality #10 - August 5, 2013

Machinery – New York – Crushed, Broken Limestone NEC

MJL Crushing LLC - MJL Crushing LLC

METAL/NONMETAL MINE FATALITY – On August 5, 2013, a 55-year old plant manager with 5 years of experience was killed at a crushed stone operation. The victim looked into an operating crusher and a tooth, that broke free from an excavator bucket, was ejected from the crusher and struck him.



Best Practices

- Establish and discuss policies and procedures for safely clearing a cone crusher. Consider a mechanical method for clearing material to minimize exposure to persons performing the work.
- Task train persons to recognize all potential hazardous conditions and to understand safe job procedures for elimination of the hazards before beginning work.
- Before working on or near equipment, ensure the equipment power is off and locked out/tagged out. Ensure the equipment has been securely blocked against hazardous motion to ensure energy cannot be released while performing work.
- Always maintain equipment in a safe operating condition.
- Provide a safe means of access for persons required to maintain a cone crusher.
- Provide guards, shields, or other devices to protect persons from the hazard of flying or falling materials generated from the operation of screens, crushers, or conveyors.
- Implement measures to ensure persons are properly positioned and protected from hazards while performing a task.

This is the 10th fatality reported in calendar year 2013 in metal and nonmetal mining. As of this date in 2012, there were 10 fatalities reported in metal and nonmetal mining.



METAL/NONMETAL MINE FATALITY – On April 17, 2014, a 58-year-old truck driver with 3½ years of experience was killed at a sand and gravel mine. An excavator was loading material in a haul truck parked at the pit. When the victim exited the truck, he was struck by the excavator bucket and pinned against the truck.



Best Practices

- Establish and discuss safe work procedures before beginning work. Identify and control all hazards associated with the work to be performed and use methods to properly protect persons.
- Task train all persons to recognize all potential hazardous conditions and to understand safe job procedures for elimination of the hazards before beginning work.
- Ensure that haul truck operators remain in their trucks when being loaded.
- Communicate with mobile equipment operators and ensure they acknowledge your presence. Stay in the line of sight with mobile equipment operators.
- Ensure that you make eye contact with mobile equipment operators before approaching their work areas. Never assume the equipment operator sees you.
- Never place yourself in a location where equipment operators can't see you.
- Before operating equipment, always ensure other miners are clear and safely positioned.
- Monitor persons routinely to determine safe work procedures are followed.

This is the 7th fatality reported in calendar year 2014 in metal and nonmetal mining. As of this date in 2013, there were 5 fatalities reported in metal and nonmetal mining. This is the 1st Machinery fatality in 2014. There was 1 Machinery fatality in the same period in 2013.

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METAL/NONMETAL MINE FATALITY – On April 24, 2014, a 50-year-old contract dozer operator with 23 years of experience was killed at a fire clay mine. He had been operating a dozer pushing clay in the pit and was found lying five feet behind the dozer.



Best Practices

- Ensure that persons are trained, including task-training, to understand the hazards associated with the work being performed.
- Establish and discuss safe work procedures before beginning work. Identify and control all hazards associated with the work to be performed and use methods to properly protect persons.
- Do not place yourself in a position that will expose you to hazards while performing a task.
- Maintain control of mobile equipment while it is in motion.
- Set the parking brake and lower the bull dozer blade to the ground before dismounting equipment.
- Never jump from mobile equipment.
- Always wear a seat belt when operating mobile equipment.
- Monitor persons routinely to determine safe work procedures are followed.

This is the 8th fatality reported in calendar year 2014 in metal and nonmetal mining. As of this date in 2013, there were 6 fatalities reported in metal and nonmetal mining. This is the 2nd Machinery fatality in 2014. There was 1 Machinery fatality in the same period in 2013.



METAL/NONMETAL MINE FATALITY – On April 28, 2014, a 53-year-old miner with 32 years of experience was killed at an underground gold mine. The victim was drilling with a jackleg drill when his clothing became entangled in the drill steel of the machine.



Best Practices

- Ensure that persons are trained, including task-training, to understand the hazards associated with the work being performed.
- Establish and discuss safe work procedures before beginning work. Identify and control all hazards associated with the work to be performed and use methods to properly protect persons.
- Conduct work place examinations before beginning any work.
- Do not place yourself in a position that will expose you to hazards while performing a task.
- Stop the drill rotation when performing tasks near the rotating steel.
- Provide safe routing of hoses and cables so they are not close to the rotation of the drill.
- Do not assign a person to work alone in areas where hazardous conditions exist that would endanger his or her safety.
- Do not wear loose fitting clothing when working around drilling machinery.
- Keep work areas clean and free of tripping hazards.

This is the 10th fatality reported in calendar year 2014 in metal and nonmetal mining. As of this date in 2013, there were 6 fatalities reported in metal and nonmetal mining. This is the 3rd Machinery fatality in 2014. There was 1 Machinery fatality in the same period in 2013.



METAL/NONMETAL MINE FATALITY – On January 26, 2015, a 57-year old heavy equipment operator with 36 years of experience was seriously injured at a phosphate mine. He was operating an excavator near a water filled ditch when the excavator tipped forward and went in the water, submerging the cab. The victim was removed from the cab and transported to a hospital where he died later that day.



Best Practices

- Task train all persons to recognize all potential hazardous conditions and safe job procedures to identify and eliminate all hazards before beginning work, specifically the limited visibility of large equipment.
- Discuss safe work procedures before beginning work. Identify and control all hazards associated with the work to be performed and the methods to properly protect miners.
- Provide traffic patterns and roads that minimize the danger of machines traveling near bodies of water.
- Conduct examinations of travelways to evaluate hazards.
- Install barriers, markers, or other warning devices to aid equipment operators where travelways are not recognizable or hazards are not apparent. Limit travel of mobile equipment and inform mobile equipment operators of hazards.
- Do not travel into areas where ground conditions can't be verified. If necessary, use the bucket of the machine to probe the travel/work area to check the ground conditions.

This is the 4th fatality reported in calendar year 2015 in metal and nonmetal mining. As of this date in 2014, there were 0 fatalities reported in metal and nonmetal mining. This is the 1st Machinery fatality in 2015. There were 0 Machinery fatalities in the same period in 2014.



METAL/NONMETAL MINE FATALITY – On March 23, 2015, a 48-year old mine operator with 20 years of experience was killed at a dimension stone operation. The victim was operating a walk-behind masonry saw, positioned between the saw and a ledge, when he tripped and fell. The victim and the saw went over the 4½-foot ledge, resulting in the saw falling on him.



Best Practices

- Identify all hazards and use appropriate controls to protect miners prior to conducting any work.
- Ensure that operators are in a safe position and have control of their equipment at all times.
- Keep workplaces free of tripping hazards.
- Use barricades or railings at edges of drop-offs where persons are in danger of falling.
- Equip walk behind masonry saws with automatic shut off devices to stop the engine if the operator cannot maintain control of the equipment.
- Design bench top stone cutting patterns to ensure the saw operator is not positioned between the saw and the drop off edge.

This is the 6th fatality reported in calendar year 2015 in metal and nonmetal mining. As of this date in 2014, there were 4 fatalities reported in metal and nonmetal mining. This is the 2nd Machinery fatality in 2015. There were no Machinery fatalities in the same period in 2014.



METAL/NONMETAL MINE FATALITY – On July 10, 2015, a 50-year old Superintendent with 26 years of experience was killed at a sand and gravel dredge operation. Two miners were attempting to dislodge the clam shell bucket from the bottom of the pond when the dredge capsized. One miner was injured but was able to swim to shore and summon assistance. The victim was recovered eight days later.



Best Practices

- Always wear a life jacket where there is a danger of falling into the water.
- Ensure that machinery components are blocked against hazardous stored energy prior to performing maintenance or repairs.
- Task train all persons to recognize all potential hazardous conditions and ensure they understand safe job procedures for elimination of the hazards before beginning work.
- Examine and test all safety devices on a regular basis and ensure that they are operating properly.
- When non-routine tasks or problems occur, conduct a risk analysis before starting the task to ensure that all hazards are evaluated and eliminated.

This is the 12th fatality reported in calendar year 2015 in metal and nonmetal mining. As of this date in 2014, there were 16 fatalities reported in metal and nonmetal mining.

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METAL/NONMETAL MINE FATALITY – On December 15, 2015, a 75-year old tow truck laborer was killed at a cement plant. As the tow truck operator was lowering the truck's boom it struck the victim. The victim suffered a severe head wound but was conscious when transported to a local hospital but later died of his injuries.



Best Practices

- Position yourself only in areas where you will not be exposed to hazards resulting from a sudden release of energy. Be aware of your location in relation to machine parts that can move.
- Establish communications between equipment operators and machine helpers. Make sure those around you know your intentions.
- Positively block machine parts (including hydraulic boom lifts) and suspended loads from motion prior to entering areas underneath them.
- Ensure that persons are properly task trained regarding safe operating procedures before allowing them to operate mobile equipment and monitor work to ensure procedures are followed.
- Ensure that all operating systems and safety features on mobile equipment are maintained and functional at all times.
- Operate all machinery in accordance with manufacturers operating guidelines.
- Wear all appropriate personal protective equipment.

This is the 16th fatality reported in calendar year 2015 in metal and nonmetal mining. As of this date in 2014, there were 28 fatalities reported in metal and nonmetal mining. This is the 5th Machinery fatality in 2015. There were 3 Machinery fatalities in the same period in 2014.

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