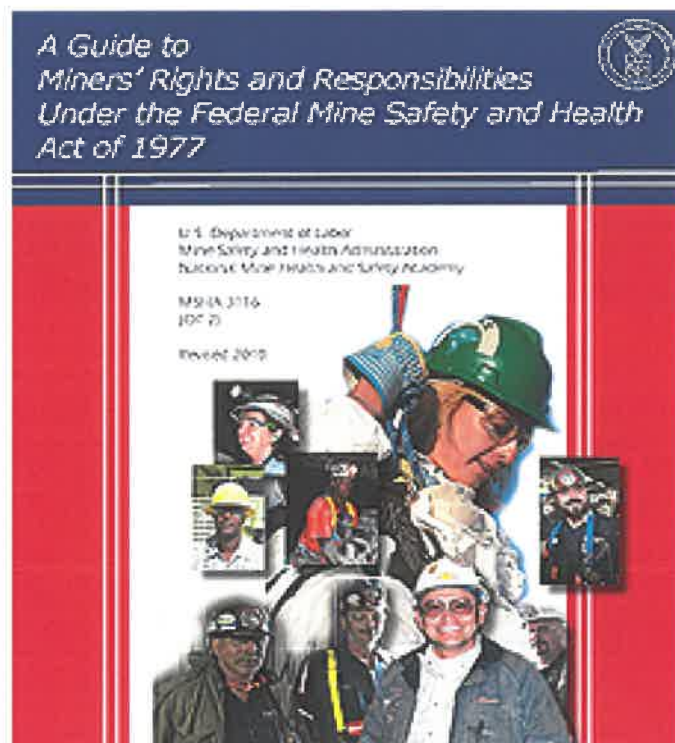




2020-2021 MSHA Annual Refresher



Promoting a Safety Culture
Memory Refresher Quiz
Miners Rights, Civil Rights & Supervisor Responsibilities
Accident Investigation
Respirators
Bloodborne Pathogens
Ground Control/Haul Roads
Gravel Pit Update

U.S. Department of Labor
Mine Safety and Health Administration
Educational Field and Small Mine Services



Location _____ Date _____

Competent Person _____ Duration _____ Time _____

**Statutory Rights of Miners
and their Representatives under the Act**

- **These statutory rights are guaranteed to all miners by Federal law**
 - Right to select a representative for safety and health purposes
 - Right to refuse to work under conditions or practices believed to be unsafe, unhealthy, or illegal
 - Right to report a suspected violation or danger to the operator, miner's representative, or MSHA without discrimination or reprisal
 - Right to have a representative participate in a pre- and post-inspection conference
 - Right to have a representative accompany an MSHA inspector during inspection without loss of pay ("walkaround" rights)
 - Right to effective health and safety training
 - Right to free Black Lung examinations and tests
 - Right to protection from discrimination for exercising statutory rights

Rights

- **Able to list miners' rights and those of representative of miners.**
- **Able to name persons in charge of mine and the responsibility of their agents.**
- **Will be able to explain company rules relating to miner's job.**
- **Fatal grams:**
- **Attendees:**

Name _____

County _____

Date _____



“Safety Attitude – Safety Culture”

- 1. A Health and Safety Culture means each employee must take **P** _____
R _____ for **your** safety in your work area.
- 2. Negative attitudes affect job performance; name **3** examples of attitudes or behaviors which may indicate a negative attitude on the job: **1** _____
2 _____ **3** _____

Health Hazards of the Pit and Shop

- 3. MSHA Part 47 Haz Com regulates use of chemicals and the protective methods for how they enter our bodies (i.e., inhalation). **3** more ways chemicals **enter** our body: _____

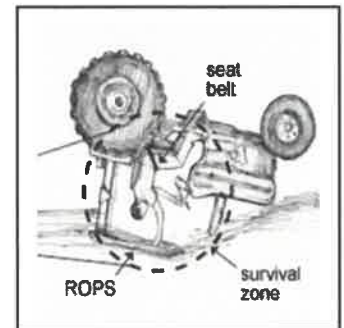
- 4. Silica is a microscopic element of rock and sand which can affect lungs; methods to control dust are critical for preventing chronic adverse health effects. **4** ways to control dust in work environments:
1 _____ **2** _____
3 _____ **4** _____
- 5. Diesel Exhaust in the Shop is a health hazard from breathing fumes containing Nitric Oxide, Carbon Monoxide, among other components; name **4** best practices to control vehicle exhaust in the shop:
1 _____ **2** _____
3 _____ **4** _____

ROPS – Agri Tractors

- 6. Tractor rollovers account for 60% of deaths in tractor use. Name **3** precautions to take while operating a tractor to **reduce rollovers**: **1** _____
2 _____ **3** _____
- 7. MSHA requires a combination of **S** _____ - **B** _____ and installation of _____, to protect the operator in a rollover situation from crushing injuries.

Loaders and Traffic Controls in the Pit

- 8. Name **4** key items to inspect during a walkaround of a rubber-tire loader:
1 _____ **2** _____
3 _____ **4** _____
- 9. Name **3** reasons for a *startup check procedure*: _____



Health – Basic First Aid/Hot-Cold Weather

- 10. MSHA requires ‘a person capable of rendering 1st Aid on all shifts’. You are faced with a medical emergency at a **remote** county location. **3** key considerations in your emergency plan:
1 _____
2 _____ **3** _____
- 11. You’re on a 12-hour shift of snow plowing operations; **4** ways to prepare to be stranded in cold weather:
1 _____ **2** _____
3 _____ **4** _____



Name: _____

County: _____

Date: _____

Respirator Refresher Course

1. Name MSHA's 3 general requirements of operators' respiratory programs:

2. Describe 3 hazardous respiratory conditions you may encounter in your job?

3. An oxygen-deficient atmosphere is one which is less than what % oxygen?:

4. Describe two reasons not to rely on detection of odor alone as a chemical exposure warning:

5. At minimum, what is the type of fit-test which should be done on a mask:



Name: _____

County/Dept: _____

Date: _____

Bloodborne Pathogens/ Communicable Diseases – Worksheet

1. List three types of Bloodborne communicable diseases: _____

2. List three symptoms of Hepatitis B: _____

3. List three routes that infected body fluids can enter into your blood system: _____

4. During an emergency and using PPE to protect yourself you would wear _____ , _____ , _____ and other barrier _____ .

5. If you are exposed you should:

- a. Wash the area immediately with hot water and using antibacterial soap
- b. Flush mouth, nose, eyes for 15 minutes if exposed in mucus membranes
- c. Report the exposure to immediately to your supervisor
- d. All of the above



Name: _____

County/Dept: _____

Date: _____

Accident-Incident Investigation – Worksheet

1. What is an accident? _____

2. What 2 factors define an effective accident investigation?

3. List 4 responsibilities of a successful supervisor?

4. What 4 factors contribute to workplace injuries and accidents:

5. From “No Accident- Fall from Ladder” video – Conduct the Following Investigation:

Name an Unsafe Condition: _____

Name an Unsafe Act or Decision: _____

Name a System or Management Failure: _____

Name a Mismatch or Overload: _____

Name a Poor Safety Communication: _____



Fatality #11 - July 14, 2012
Powered Haulage - Surface - Colorado
Colowyo Coal Company LP - Colowyo Mine

COAL MINE FATALITY - On Saturday, July 14, 2012, a 25-year old water truck driver with 31 weeks of experience was killed at a surface mine. The victim was driving a water truck down a grade in an active work area of the mine when he lost control of the truck. The truck struck a berm on the right side of the roadway, traveled across the roadway, struck an embankment on the left side of the roadway and overturned, ending up facing opposite the original direction of travel. The victim was found ejected from the truck.



Best Practices

- Train all employees thoroughly on proper work procedures, hazard recognition and avoidance, and proper use of roadway berms.
- Conduct pre-operational checks to identify defects that may affect the safe operation of equipment before being placed into service.
- Never operate a truck or other mobile equipment without using a seat belt.
- Know the truck's capabilities, operating ranges, load-limits, and maintain the brakes and other safety features properly.
- Construct roadway berms to appropriate strengths and geometries. Ensure all grades and haulage roads are appropriate for the haulage equipment being used.
- Maintain control of equipment at all times, making allowances for the prevailing conditions (low visibility, inclement weather, etc).
- Observe all speed limits, traffic rules, and ensure that grades on haulage roads are appropriate for haulage equipment being used.
- Always select the proper gear and downshift well in advance of descending the grade.
- Maintain equipment braking and steering systems in good repair and adjustment. Never rely on engine brakes and transmission retarders as substitutes for keeping brakes properly maintained.
- Monitor work habits routinely and examine work areas to ensure that safe work procedures are followed.
- Do not attempt to exit or jump from a moving vehicle .

This is the eleventh fatality reported in calendar year 2012 in the coal mining industry. As of this date in 2011 there were six fatalities reported in the coal mining industry. This is the first fatality classified as Powered Haulage in 2012. At this time in 2011 there were two fatalities in this classification.



Fatality Alert



MINE FATALITY – On June 1, 2020, a contract truck driver died after falling from the top of his trailer. The victim received first aid/CPR at the scene and passed away after being transported to a local hospital.



Best Practices

- **Discuss work procedures;** identify all potential hazards to do the job safely.
- **Train everyone to recognize fall hazards** and ensure that safe work procedures are discussed and established.
- **Include safe truck tarping requirements** in site-specific hazard training.
- **Provide truck tarping safe access facilities** where needed.
- **Provide an effective fall arrest secure anchorage system.** Ensure that people wear and attach fall protection connecting devices where there is a danger of falling.
- **Use automatic tarp deploying systems** to prevent people from working from heights.

This is the 8th fatality reported in 2020, and the third classified as “Slip or Fall of Person.”

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.

Report accidents and hazardous conditions: 1-800-746-1553
msha.gov | askmsa@dol.gov | @MSHA_DOL



Safety Alert



Recent Increase in Fall of Person Accidents

28 miners have died after falling from heights over the last 10 years.

Deaths from falls have increased from 8% to 19% of mining fatalities in the last two years.

- Working without fall protection on top of trucks, in aerial lift baskets, and while accessing and egressing other mobile equipment
- While performing maintenance on crushers, screens, conveyors, and other milling equipment

MSHA issued 92 imminent danger orders for people working at heights without fall protection between January 2019 and June 2020. The most common violations were truck drivers climbing atop their vehicles, and maintenance and quarry personnel climbing to or working without fall protection in high places. Supervisors have been ordered down from dangerous locations.



A truck driver fell 9 ½ feet while adjusting the tarp. He had climbed up the side of the truck into the bed and fell while walking on loose sand.



A miner fell 28 feet from an aerial lift basket. While he was wearing a fall protection harness it was not attached to the basket's anchor point.

Best Practices

- **Reduce hazards.** Design work areas and develop job tasks to minimize fall hazards.
- **Have a program.** Establish an effective fall prevention and protection program. Provide task and site-specific hazard training that prohibits working at unprotected locations.
- **Provide a fall protection harness and lanyard** to each miner who may work at an elevated height or a location unprotected by handrails. Ensure their use.
- **Provide identifiable, secure anchor points** to attach lanyards.
- **Proactively enforce** fall protection equipment usage and safe work-at-height policies and procedures with supervisors, miners, contractors, and truck drivers.
- **Provide mobile or stationary platforms or scaffolding** at locations and on work projects where there is a risk of falling.
- **Provide safe truck tarping and bulk truck hatch access facilities.**

Report accidents and hazardous conditions: 1-800-746-1553

[msha.gov](https://www.msha.gov) | askmsha@dol.gov | [@MSHA_DOL](https://twitter.com/MSHA_DOL)

Seat Belt Safety - Best Practices

Promote a Safety Culture

- Seat belts save lives.
- You expect your loved ones to wear their seat belts. They expect you to do the same.
- Be a buddy. Insist that coworkers also wear their seat belts.

Equipment Operators

- **ALWAYS** wear your seat belt.
- Wear your seat belt to the job, at the job, and from the job.

Rules to Live By

- Buckling up is the single most effective thing you can do to protect yourself in a collision, tip-over, or rollover.
- In the event of a collision, tip-over, or rollover your seat belt will keep you in the protected space of the machine cab or vehicle.
- Never jump from a moving vehicle. Remain in the seat with your seat belt secured.
- Inspect the seat belt and mounting hardware before operating the equipment.
- Replace any damaged or worn parts.
- You are responsible for buckling up. Make the right choice. **ALWAYS** wear your seat belt.



A seat belt saved this life!

After rolling over, the uninjured operator unfastened his seat belt and exited the front-end loader through the right side door window, which broke when the machine overturned.



APPENDIX E: COLLECT INFORMATION CHECKLIST

Investigators should be sure their investigation answers the following questions:

WHO?	WHERE?
<ul style="list-style-type: none"> <input type="checkbox"/> Who was injured? <input type="checkbox"/> Who saw the incident? <input type="checkbox"/> Who was working with the employee? <input type="checkbox"/> Who had instructed/assigned the employee? <input type="checkbox"/> Who else was involved? <input type="checkbox"/> Who else can help prevent recurrence? 	<ul style="list-style-type: none"> <input type="checkbox"/> Where did the incident occur? <input type="checkbox"/> Where was the employee at the time? <input type="checkbox"/> Where was the supervisor at the time? <input type="checkbox"/> Where were fellow workers at the time? <input type="checkbox"/> Where were other people who were involved at the time? <input type="checkbox"/> Where were witnesses when incident occurred?
WHAT?	WHY?
<ul style="list-style-type: none"> <input type="checkbox"/> What was the incident? <input type="checkbox"/> What was the injury? <input type="checkbox"/> What was the employee doing? <input type="checkbox"/> What had the employee been told to do? <input type="checkbox"/> What tools was the employee using? <input type="checkbox"/> What machine was involved? <input type="checkbox"/> What operation was the employee performing? <input type="checkbox"/> What instructions had the employee been given? <input type="checkbox"/> What specific precautions were necessary? <input type="checkbox"/> What specific precautions was the employee given? <input type="checkbox"/> What protective equipment should have been used? <input type="checkbox"/> What protective equipment was the employee using? <input type="checkbox"/> What had other persons done that contributed to the incident? <input type="checkbox"/> What problem or questions did the employee encounter? <input type="checkbox"/> What did the employee or witnesses do when the incident occurred? <input type="checkbox"/> What extenuating circumstances were involved? <input type="checkbox"/> What did the employee or witnesses see? <input type="checkbox"/> What will be done to prevent recurrence? <input type="checkbox"/> What safety rules were violated? <input type="checkbox"/> What new rules are needed? 	<ul style="list-style-type: none"> <input type="checkbox"/> Why was the employee injured? <input type="checkbox"/> Why and what did the employee do? <input type="checkbox"/> Why and what did the other person do? <input type="checkbox"/> Why wasn't protective equipment used? <input type="checkbox"/> Why weren't specific instructions given to the employee? <input type="checkbox"/> Why was the employee in the position? <input type="checkbox"/> Why was the employee using the tools or machine? <input type="checkbox"/> Why didn't the employee check with the supervisor when the employee noted things weren't as they should be? <input type="checkbox"/> Why did the employee continue working under the circumstances? <input type="checkbox"/> Why wasn't the supervisor there at the time?
WHEN?	HOW?
<ul style="list-style-type: none"> <input type="checkbox"/> When did the incident occur? <input type="checkbox"/> When did the employee start on that job? <input type="checkbox"/> When was the employee assigned on the job? <input type="checkbox"/> When were the hazards pointed out to the employee? <input type="checkbox"/> When was the employee's supervisor last check on job progress? <input type="checkbox"/> When did the employee first sense something was wrong? 	<ul style="list-style-type: none"> <input type="checkbox"/> How did the employee get injured? <input type="checkbox"/> How could the employee have avoided it? <input type="checkbox"/> How could fellow workers have avoided it? <input type="checkbox"/> How could supervisor have prevented it - could it be prevented?

U.S. Department of Labor
Mine Safety and Health Administration
Educational Field and Small Mine Services



Location _____ Date _____

Competent Person _____ Duration _____ Time _____

Respiratory Protection Program

- **A system of monitoring under 30 CFR Part [56.5002](#)**
Dust, Gas, Mist, Fume, exposure assessment
- **Written Procedures**
- **Employee training**
- **Fit-testing**
 1. All persons required to use a respirator will be fit tested first
 2. Annual fit testing to be conducted
- **Respirator cleaning and disinfecting**
- **Records of actions taken**
 1. Records of fit-test which identifies:
 - a. The exact model and size respirator
 - b. Date of testing
 - c. The fit-test method and
 - d. Whether the person passed or failed the test.
 2. Records of training provided which include at least:
 - a. Identification of persons
 - b. Date of training and
 - c. Topics covered.
- **A statement of use**
 1. Assigned respirators will be worn by persons at all times while in the normal work areas where persons may be overexposed; These areas will be posted "Respirator Required" and
 2. Work area(s) affected will be periodically checked to ensure that employees are using respirators and to check dust controls, employee exposure, and employee stress due to breathing resistance or heat. The area supervisor will include this check on his/her daily walk-around inspection.
- **Fatal grams: [56.5002](#)**
- **Attendees:**

U.S. Department of Labor
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Location _____ Date _____

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Ground Control: working in areas of high walls.

Review procedures for inspecting and working high wall areas.

- Inspect high walls for loose rocks, overhanging materials, vertical and horizontal cracks. [56.3130](#); [.3200](#); [.3401](#)
- Boulders, trees, or other material which might fall. [56.3131](#)

Discuss hazards encountered at mine site while working around high walls.

- Discuss weather which affect ground conditions, including rain, snow, freezing, and thawing. [56.11016](#)
- All work areas are sufficiently illuminated to inspect ground conditions. [56.17001](#)
- Maintain berms at outer edge and base of walls. [56.9300](#)
- Be aware of potential of falling rock when working on foot around high walls. [56.3200](#)
- Do not work between equipment and high wall where equipment may hinder escape. [56.3430](#)

Report immediately any unsafe conditions not readily corrected.

- Barricade and post areas where unsafe ground conditions have not been promptly corrected.
- Do not perform other work where unsafe conditions exist until unsafe conditions are corrected. [56.3202](#)
- Barricade and post these areas for the hazard. [56.3200](#); [.20011](#)

Safety Belts and Lines shall be worn where there is a danger of falling.

- When working on high walls fall protection should be worn when drilling and loading shots. [56.15005](#)
- Sufficient anchoring points should be determined.

Fatal grams: [56.3130](#); [.3131](#); [.3200](#); [.3430](#); [.9300](#); [.15005](#); [.17001](#); [.20011](#)

Attendees:

U.S. Department of Labor
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Location _____ Date _____

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Hand Safety

- Stay alert to where you place your hands.
- Most pinch points can destroy your hands.
- Use work gloves. Select the proper safety glove for the job. [56.15006](#)
- Keep welding gloves dry and free from grease and oil.
- Using improper hand tools or the proper hand tool the wrong way can result in hand injuries. [56.14205](#).

Safety Lines

- People have died from injuries sustained from “short” falls. [56.15005](#)
- When entering a confined space you must always have another person attending your line. [56.16002](#)

Wear fall protection when working from platforms, decks, scaffolds, etc. [56.15005](#)

Mobile Equipment

- Each operator is responsible for the Safe operation of his/her vehicle. [56.9101](#)
- Never park a vehicle in a high traffic or congested work area.
- Check your vehicle’s backup alarm throughout the shift. [56.14132](#)
- Always perform pre-operational checks. [56.14100](#)
- Report all problems to the supervisor and mechanic if directed. [56.14100d](#)
- **DO NOT OPERATE UNSAFE EQUIPMENT.** [56.14100c](#)

Safety Provisions and Procedures for Roadways, Loading and Dump Sites

- Berms or guardrails are required on the banks of roadways where a drop-off exists. [56.9300](#)
- Mobile equipment dumping locations shall be visually inspected. [56.9304](#)
- Dump site restraints shall be provided at dump locations. [56.9301](#)
- Ramps at dumping facilities shall be of sustainable construction to handle the equipment subjected to that area. [56.9303](#)
- If truck spotters are being utilized at dumping locations they should be in a safe location that everyone knows of their presence. [56.9305](#)

Fatalgrams: [56.9101](#); [.9300](#); [.9301](#); [.9303](#); [.9304](#); [.9305](#); [.14100](#); [.14132](#); [.15005](#); [.15006](#); [.16002](#)

Attendees: