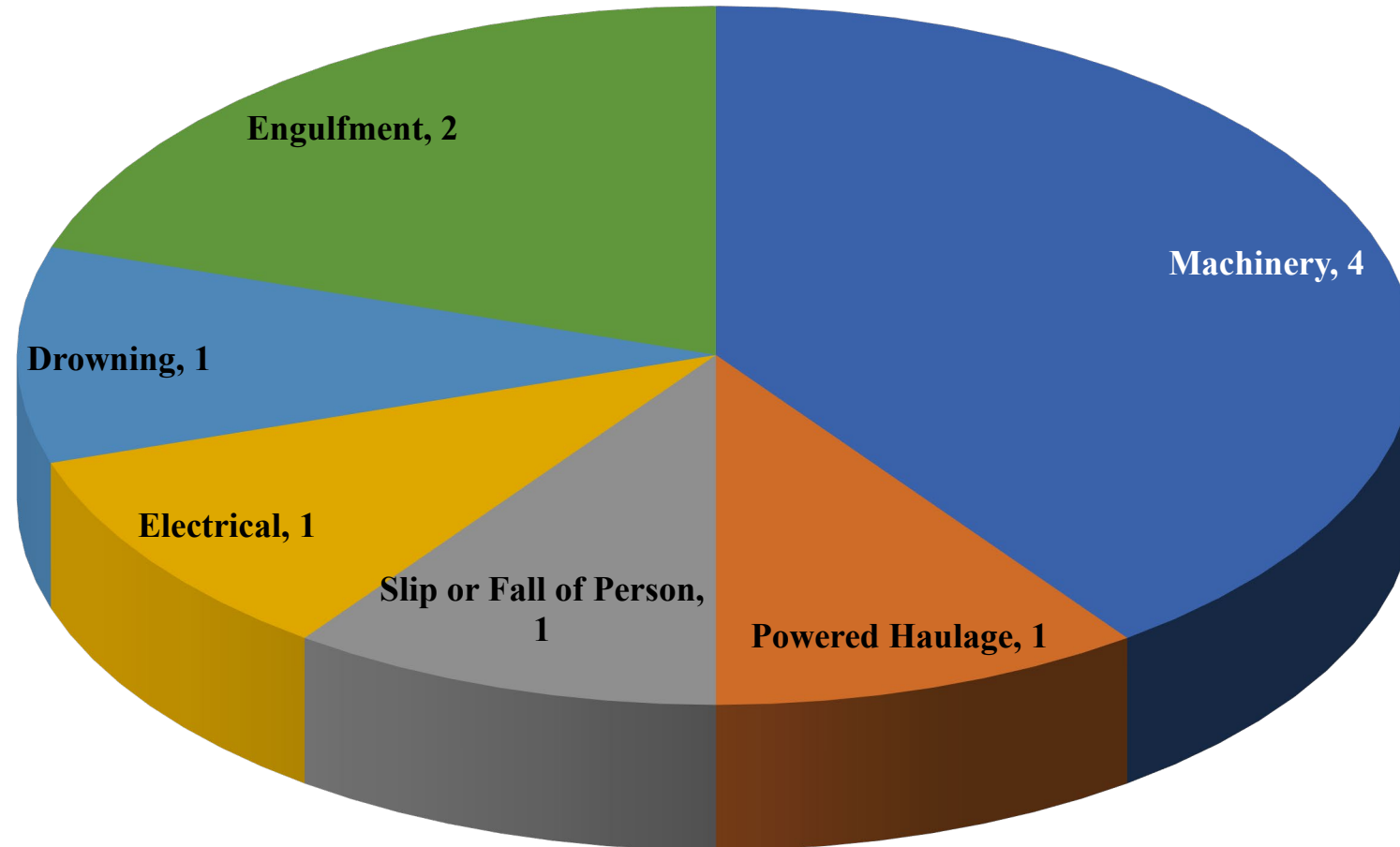


# 2022 MSHA Fatalities

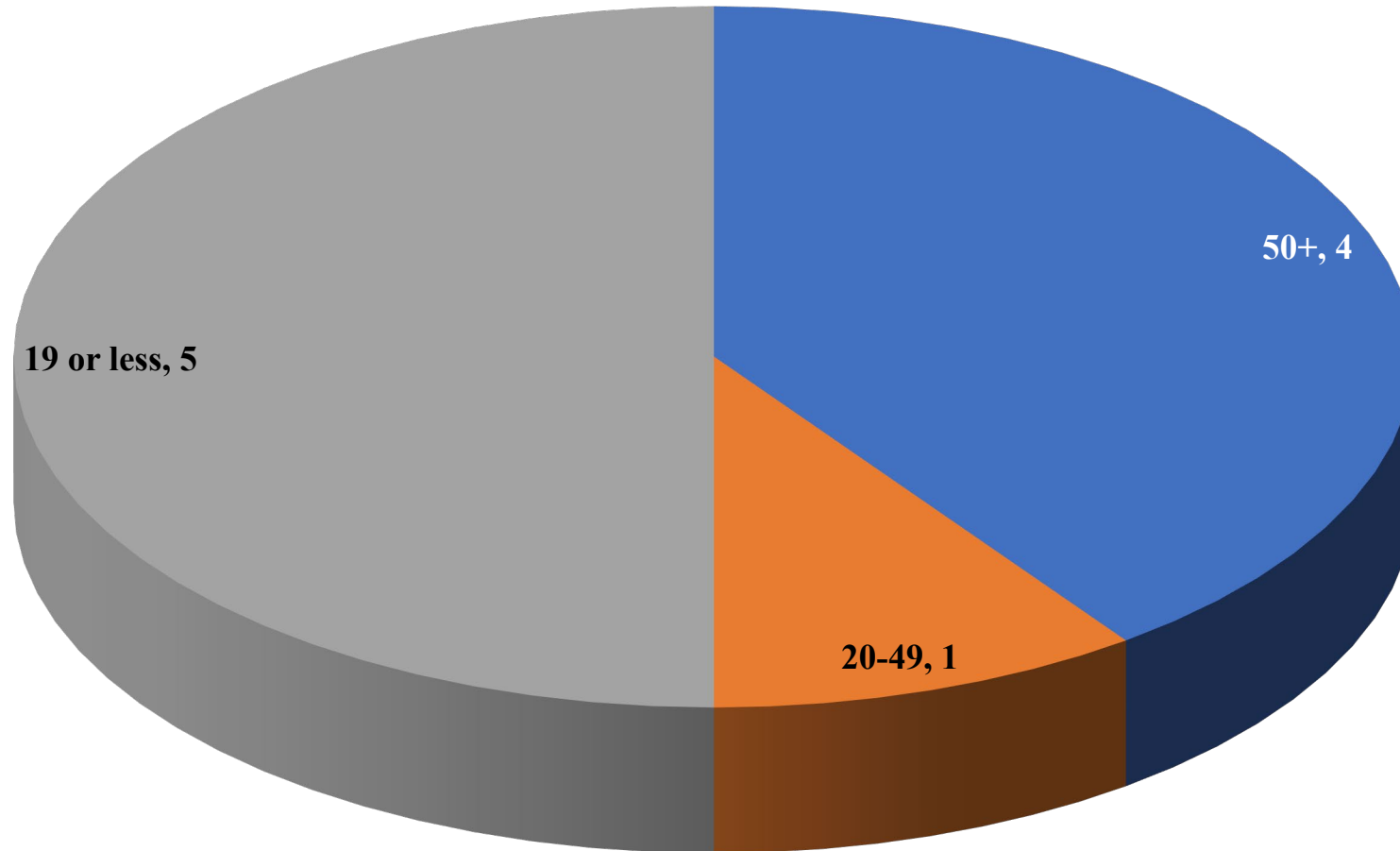
MSHA Stakeholder Meeting  
October 20, 2022

Marcus Smith  
Chief, Accident Investigations  
MSHA Enforcement

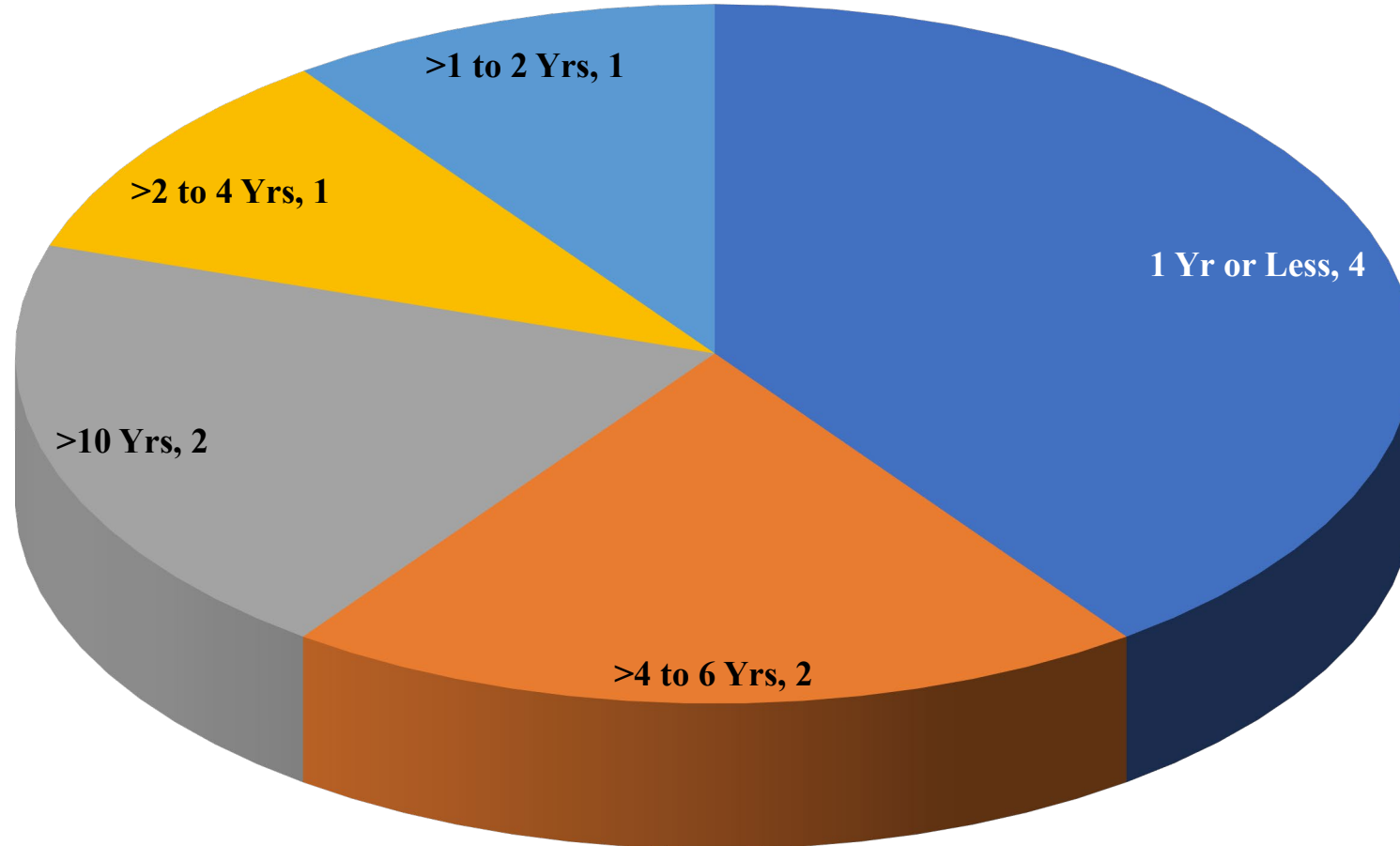
# Accident Classifications



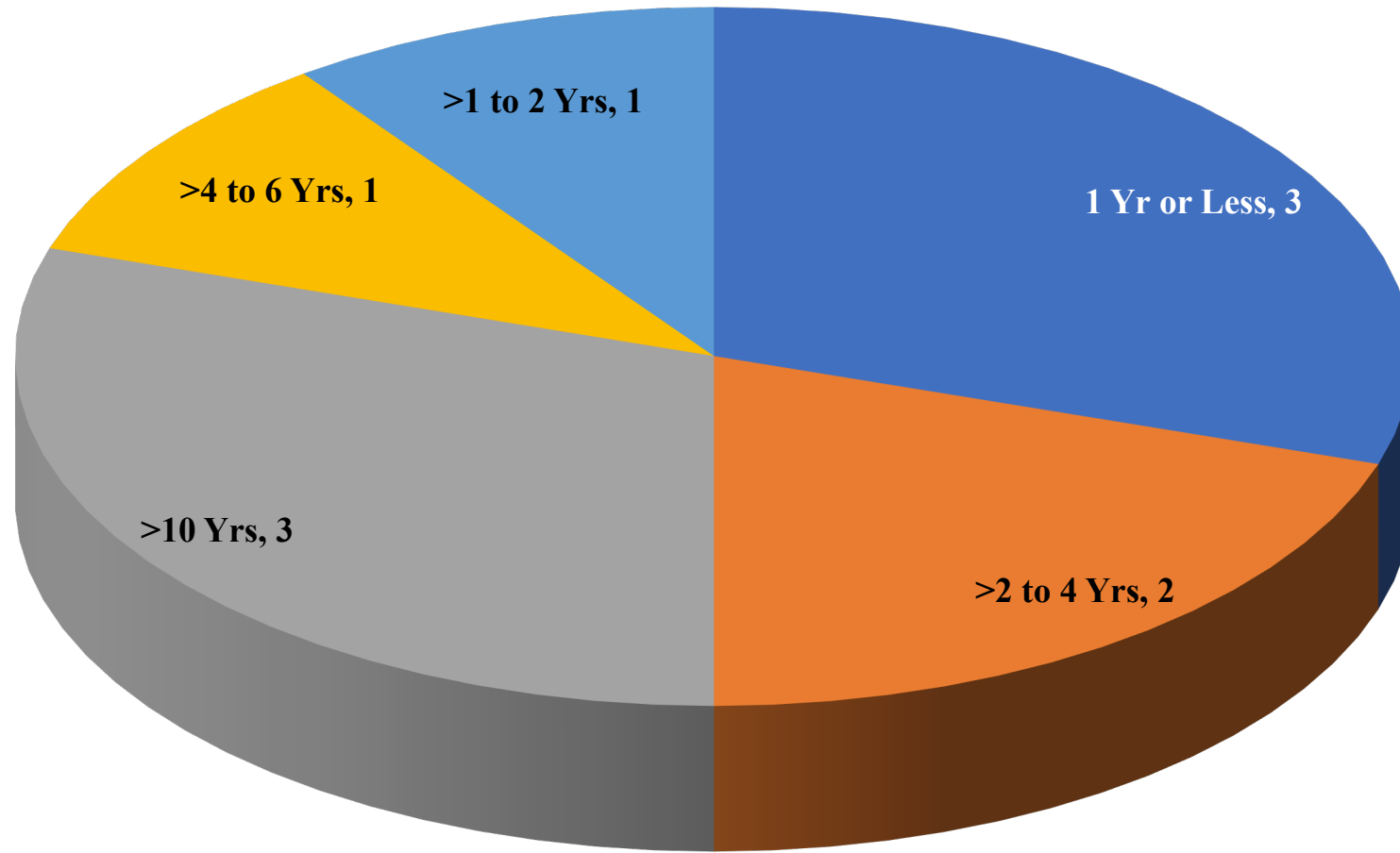
# Number of Mine Employees



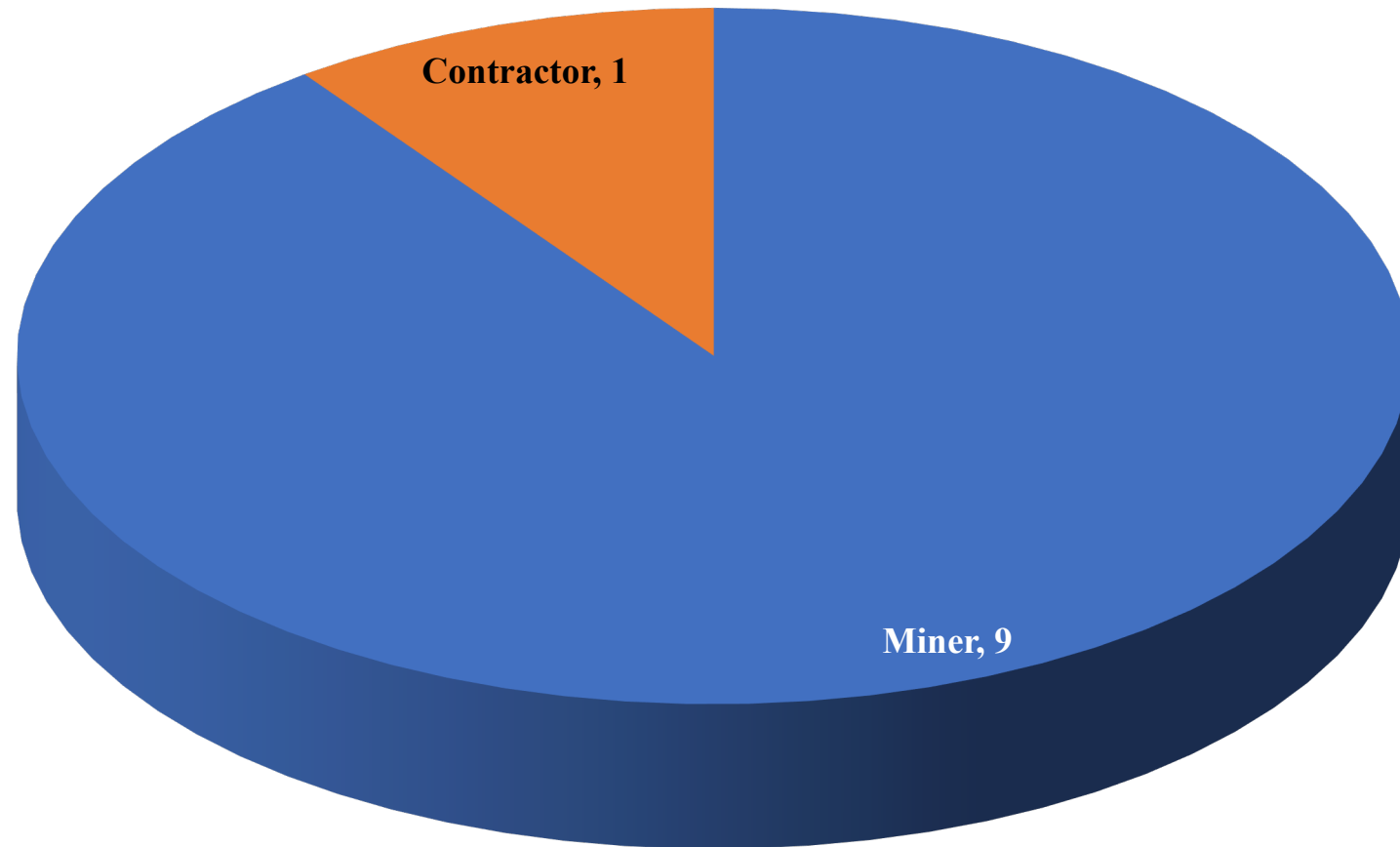
# Experience at the Mine



# Experience at the Activity



# Mine Employees and Contractors



# Giant Cement Company Dorchester, South Carolina July 21, 2022



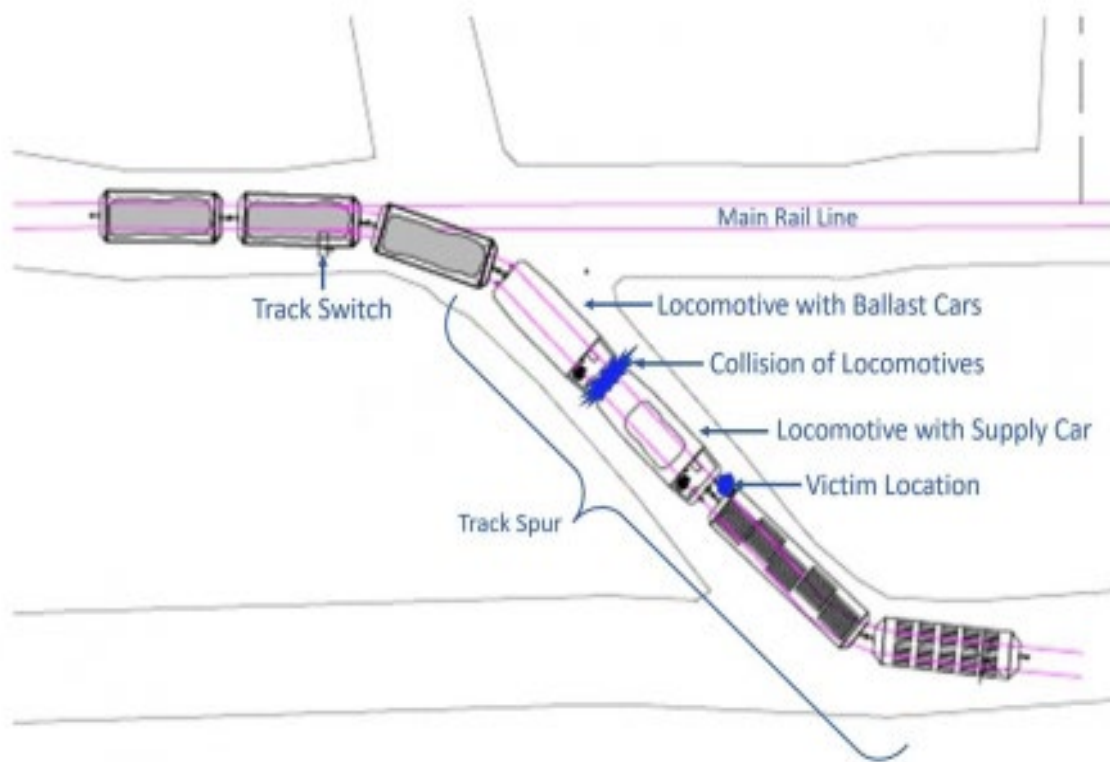
A miner received fatal injuries when his right arm became entangled in an auger (screw) conveyor.

# Best Practices

- Secure all conveyor covers in place during normal operation.
- Keep tools, clothing, and body parts away from moving conveyors.
- De-energize, lock out, tag out, and block machinery against hazardous motion before performing repairs or maintenance. Never perform work on a moving conveyor.
- Examine work areas and equipment. Report hazards to miners and assure hazards are corrected and recorded.



# Tunnel Ridge Mine Valley Grove, West Virginia August 17, 2022

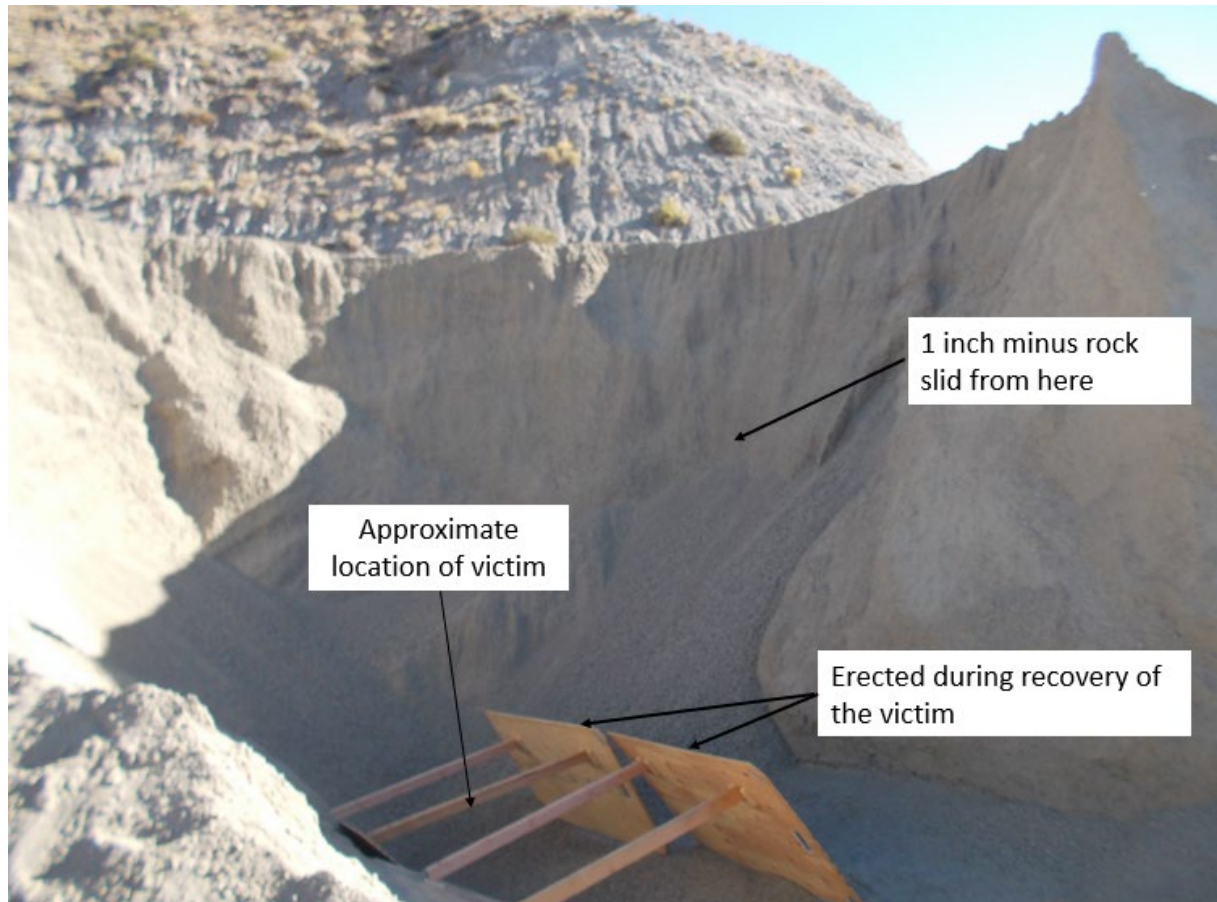


A general inside laborer died when he was caught between a supply car and its coupler. The victim was sitting on the supply car which was coupled to a locomotive parked in a track spur. The locomotive was struck by another locomotive pulling three loaded cars into the mine. The impact knocked the victim off the supply car, killing him.

# Best Practices

- Assure track switches are in the proper position for your direction of travel and the latches are in contact with the rail.
- Make sure miners are in a safe location away from equipment parked in a track spur when other equipment is passing along the main rail line.
- Make sure miners communicate their location and intended movements with the dispatcher. Repeat the switch alignment back to the dispatcher, where applicable.

# Spanish Springs Washoe, Nevada September 28, 2022



A miner died when he was engulfed beneath several feet of material from a collapsed stockpile. The miner was working close to the toe of the stockpile to remove material off the top of a surge tunnel's feeder to clear a blockage.

# Best Practices

- Equip feeders with mechanical clearing devices to prevent exposing miners to hazards from falling or sliding material.
- Make sure miners follow procedures to safely clear blockages from feeders and stay out of areas where there is a danger of falling or sliding material.
- Operators should trim over-steepened stockpile faces to the angle of repose.

# Near Misses involving falls from heights

# West Elk Mine Gunnison, Colorado July 25, 2022

A miner fell approximately 35 feet from a preparation plant and suffered a broken leg. The miner was not wearing fall protection.



# The Monarch Cement Company

## Humboldt, Kansas

### September 9, 2022



A contract truck driver was attempting to close the hatch on top of his trailer when he fell approximately ten feet to the ground. The driver was not wearing fall protection. The driver was admitted to the hospital with broken ribs and other injuries.

# Fall Protection Issuances

MSHA issued 150 imminent danger orders between January 2021 and September 2022, because miners were working, where there was a danger of falling, without fall protection. The most common violations were:

1. Truck drivers climbing on top of their vehicles
2. Mechanics working on equipment, and
3. Plant workers climbing on equipment.

Some of these involved supervisors, who were ordered down from dangerous locations.



# Fall Protection Issuances

Mine operators and independent contractors must always comply with fall protection safety standards.

1. 56/57.15005 Safety belts and lines, and
2. 77.1710(g) Protective clothing (Safety belts and lines)

From January 2021 to September 2022 these standards have been cited 392 times.

# Fall Protection

MSHA Stakeholder Meeting

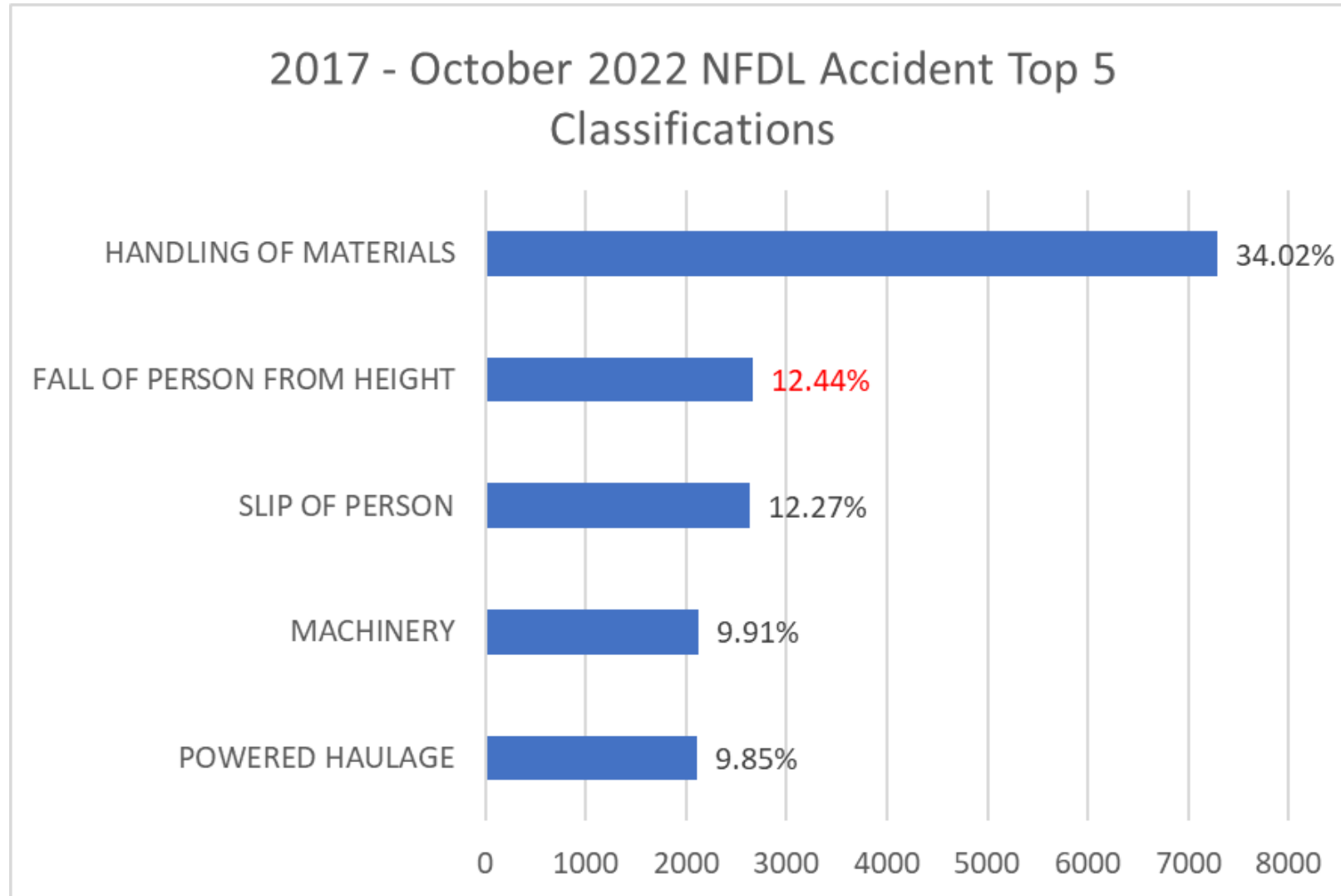
October 20, 2022

Ben Gandy

General Engineer

MSHA Technical Support

# Non-Fatal Days Lost (NFDL) Injuries by Classification 2017 - Present



# Slip or Fall of Person Fatalities by Year 2017 – Present

Year	Slip or Fall of Person Fatalities	Total Fatalities	Percentage of Total Fatalities
2017	1	28	3.6%
2018	0	29	0.0%
2019	4	28	14.3%
2020	4	29	13.8%
2021	2	37	5.4%
Oct-22	3	25	12.0%

# Contributing Factors for Slip and Fall of Person Fatalities and Injuries

1. Not providing or maintaining safe access in plants and surface facilities
2. Not providing or maintaining safe access on mobile equipment (e.g. falls while conducting maintenance and truck tarping)
3. Getting on and off mobile equipment
4. Improperly wearing or not wearing fall protection

# Fall Prevention Risk and Hazard Identification and Mitigation

1. Understanding Regulations and Standards
2. Hazard Identification
3. Hazard Mitigation
4. Product Selection
5. Training

# Fall Protection Equipment

Anchorage/Anchorage Connector



Body Wear



Connecting Devices



# Falls While Getting On and Off Equipment & Truck Tarping





# Fall Protection Best Practices

1. Train miners to recognize fall hazards and assure that safe work procedures are discussed and established.
2. Always use fall protection equipment and safety belts with lines, when working at heights and near openings where there is a danger of falling.
3. Have properly designed gates, safety chains, handrails, guards, and assure covers are securely in place at openings through which persons may fall.
4. Always use the "Three Points of Contact" method. Be sure to maintain contact with equipment by using either two hands and one foot, or one hand and two feet when mounting and dismounting equipment.
5. Use automatic tarp deploying systems to prevent people from working from heights.
6. Provide, use, and maintain safe truck hatch access facilities.

# QUARTERLY STAKEHOLDER MEETING

HEALTH - BRIEFING AND COMMUNICATION  
OCTOBER 20, 2022

**Gregory B. Meikle, Chief Division of Health - Enforcement**

# Silica Enforcement Initiative

## Coal and Metal/Nonmetal Mines

- MSHA will conduct spot inspections for silica at metal/nonmetal (MNM) and coal mines in accordance with section 103(i) of the Mine Act.
  - At mines with repeated overexposures to silica, mines may be inspected every 15-days at irregular intervals.
- Shaft and slope sinking(Coal)/removing overburden(MNM):
  - MSHA will sample occupations known to have high risk of exposure to silica when sinking shafts or slopes or removing overburden.
- For overexposures over 100 micrograms (existing PEL), MSHA will require:
  - For MNM mines, abatement within a period of time.
    - For overexposures not fully abated, MSHA will issue a 104b order.
  - For coal mines, MSHA will encourage mine operator to change the dust control and mine ventilation plans and review plans/exposures after changes are made.

Silicosis is a disabling, nonreversible, and sometimes fatal lung disease caused by overexposure to respirable crystalline silica.

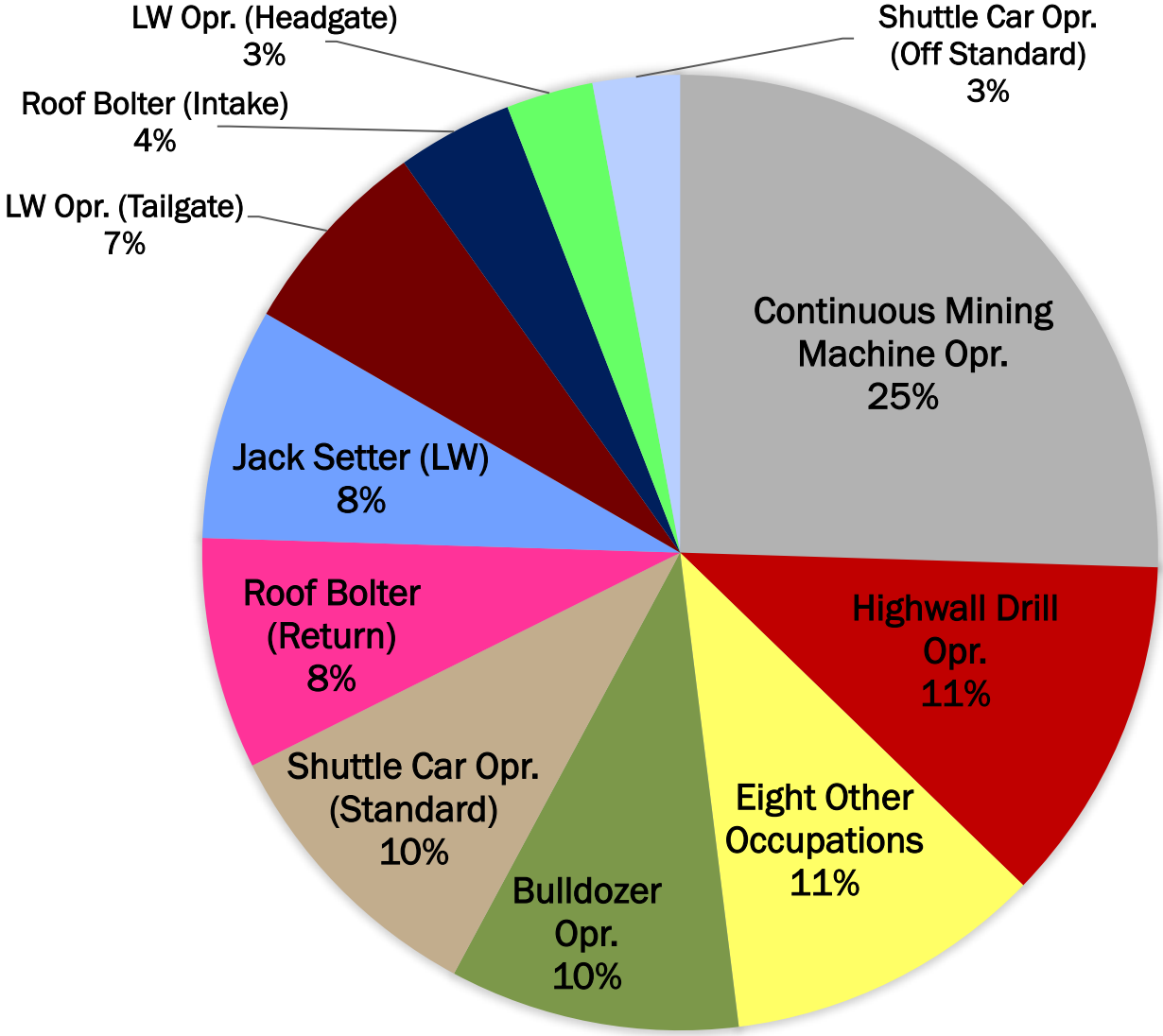
**What can Metal/Nonmetal and Coal Mine Operators do to prevent silicosis?**

1. Perform air monitoring of worksites. Monitoring will determine:
  - effectiveness of engineering controls
  - need for additional work practices to reduce dust levels; and
  - proper respiratory protection needed
  
2. Install and maintain engineering controls to reduce the amount of silica in the air. Examples of controls include:
  - exhaust ventilation
  - increase face ventilation: both velocity and quantity
  - dry dust collection systems
  - water sprays
  - wet drilling or suppression
  - supply vacuums with high-efficiency particulate air (HEPA) filters; and
  - enclosed cabs
  
3. Administrative controls are the second line of defense for minimizing silica exposures. These controls include:
  - practice preventative maintenance: clean and maintain equipment
  - practice good housekeeping: don't dry sweep to clean up
    - use wet cleaning methods, or vacuums with HEPA filters to remove dust from floors and surfaces; and
  - train miners about engineering controls and work practices that reduce dust, and the importance of maintenance and good housekeeping
  
4. Provide miners with appropriately selected, properly fitted, and NIOSH approved respirators, as engineering controls are installed or updated.
  - make sure respirators are kept clean and properly maintained and that miners are trained in their use

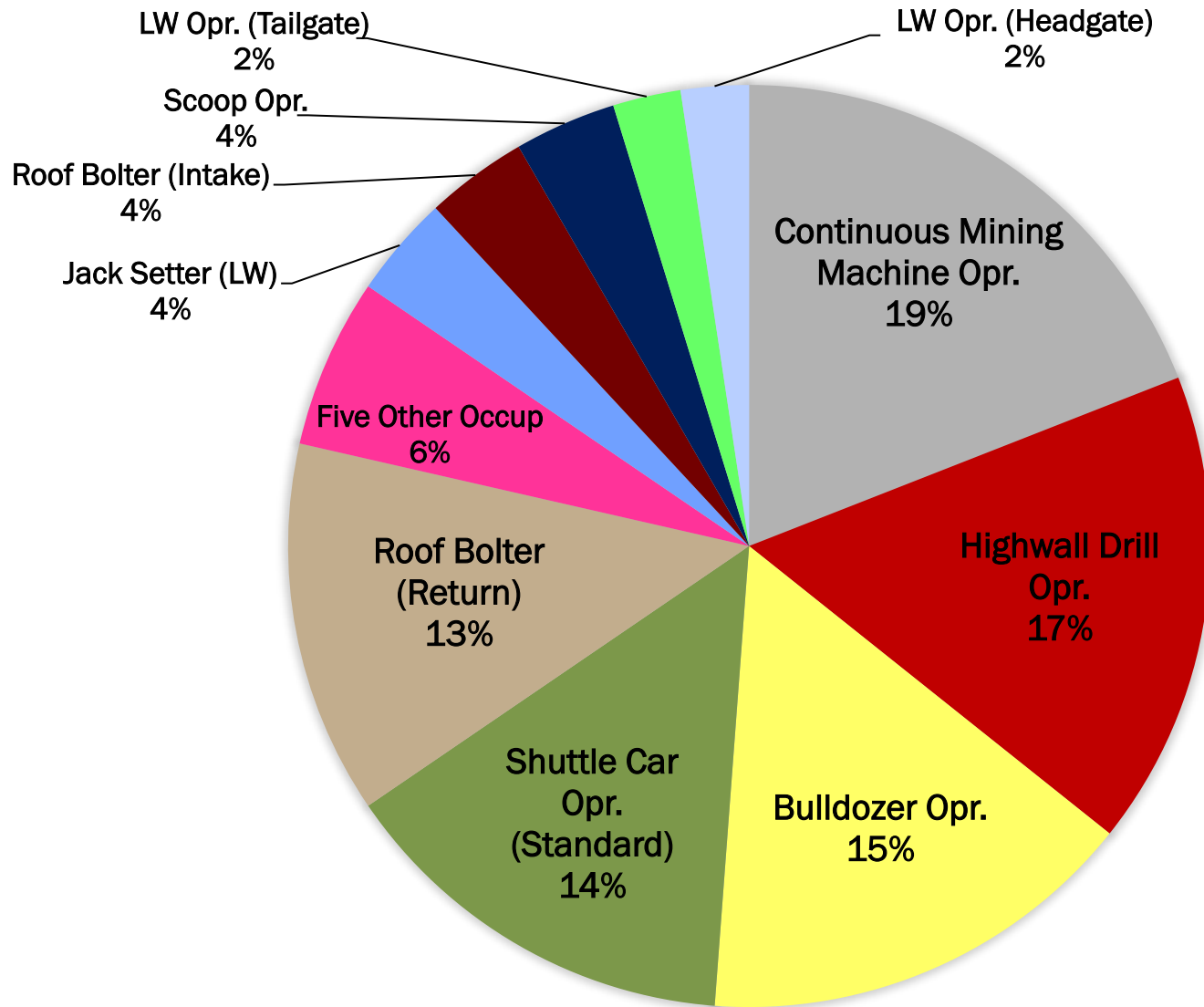
**A comprehensive source of dust controls and practices can be found at:**

<https://www.cdc.gov/niosh/mining/features/dustcontrolhandbooks.html>

# Coal CY2021 Samples > 100 µg/m<sup>3</sup> Silica



# Coal CY2022 Q1-Q3 Samples > 100 µg/m<sup>3</sup> Silica



# Best Practices in Dust Control

## Coal Mining Occupations with the Highest Exposures to Respirable Crystalline Silica CY2022

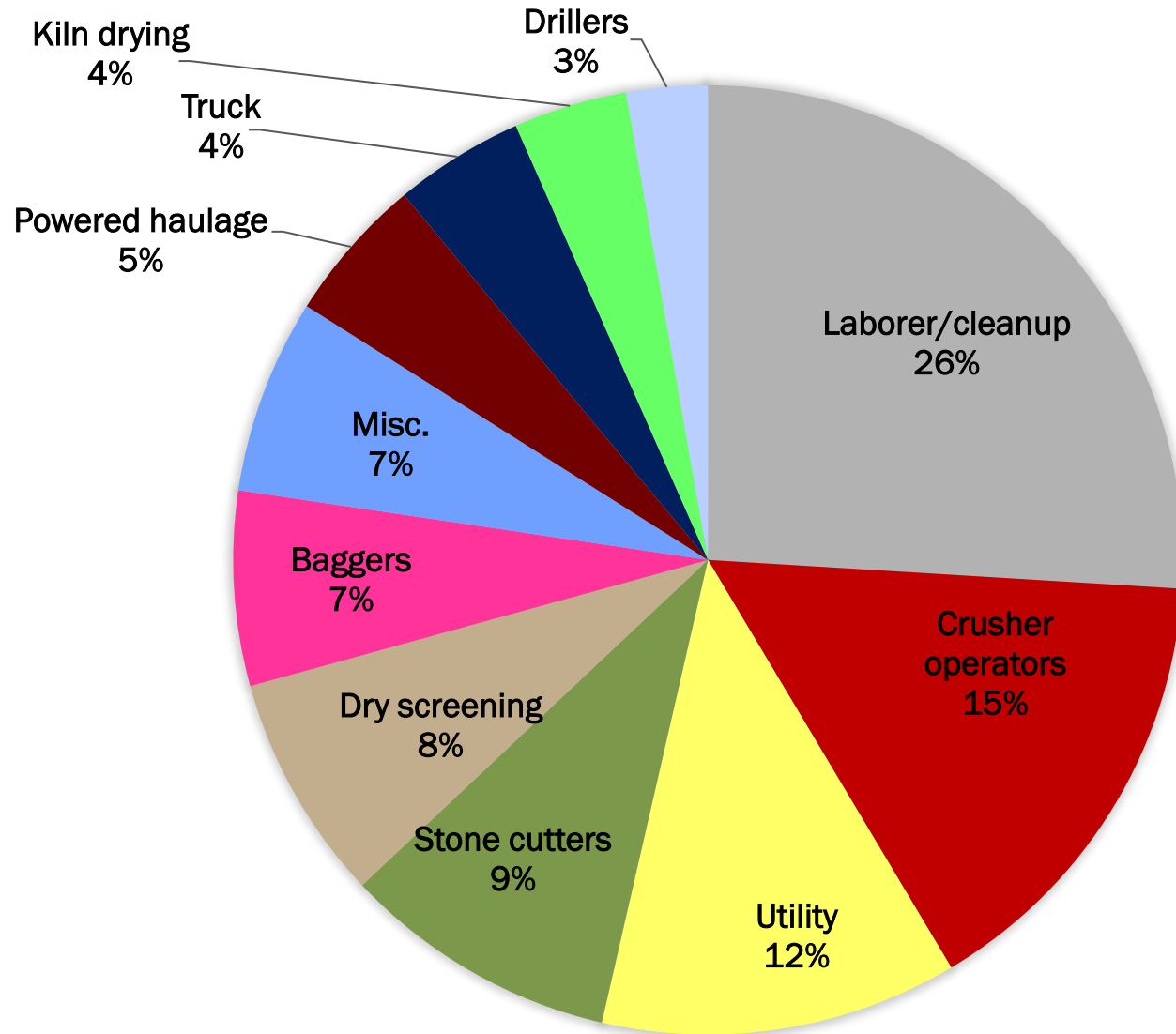
Occupation	*Best Practices
Continuous Mining Machine Operator	Water spray systems at the cutting drum or boom; volume and location Increased face ventilation
Highwall Drill Operator	Enclosed cab filtration systems (Environmental) Dry Dust Collector System or wet drilling or suppression
Bulldozer Operator	Enclosed cab filtration systems (Environmental) Equipment maintenance and cab cleaning
Roof Bolter Operator	Working up-wind of dust generating activity Provide, maintain, and clean an approved dust collector system
Longwall Face Occupations	Increased face ventilation; both velocity and quantity Shearer-mounted spray systems (shearer-clearer)
Shuttle Car Operator	Exhausting face ventilation Position operator on the opposite side of scrubber exhaust
*A comprehensive list of Best Practices can be found at the link below only 2 are listed here for the various occupations.	

# Abatement Measures for Dust Overexposures

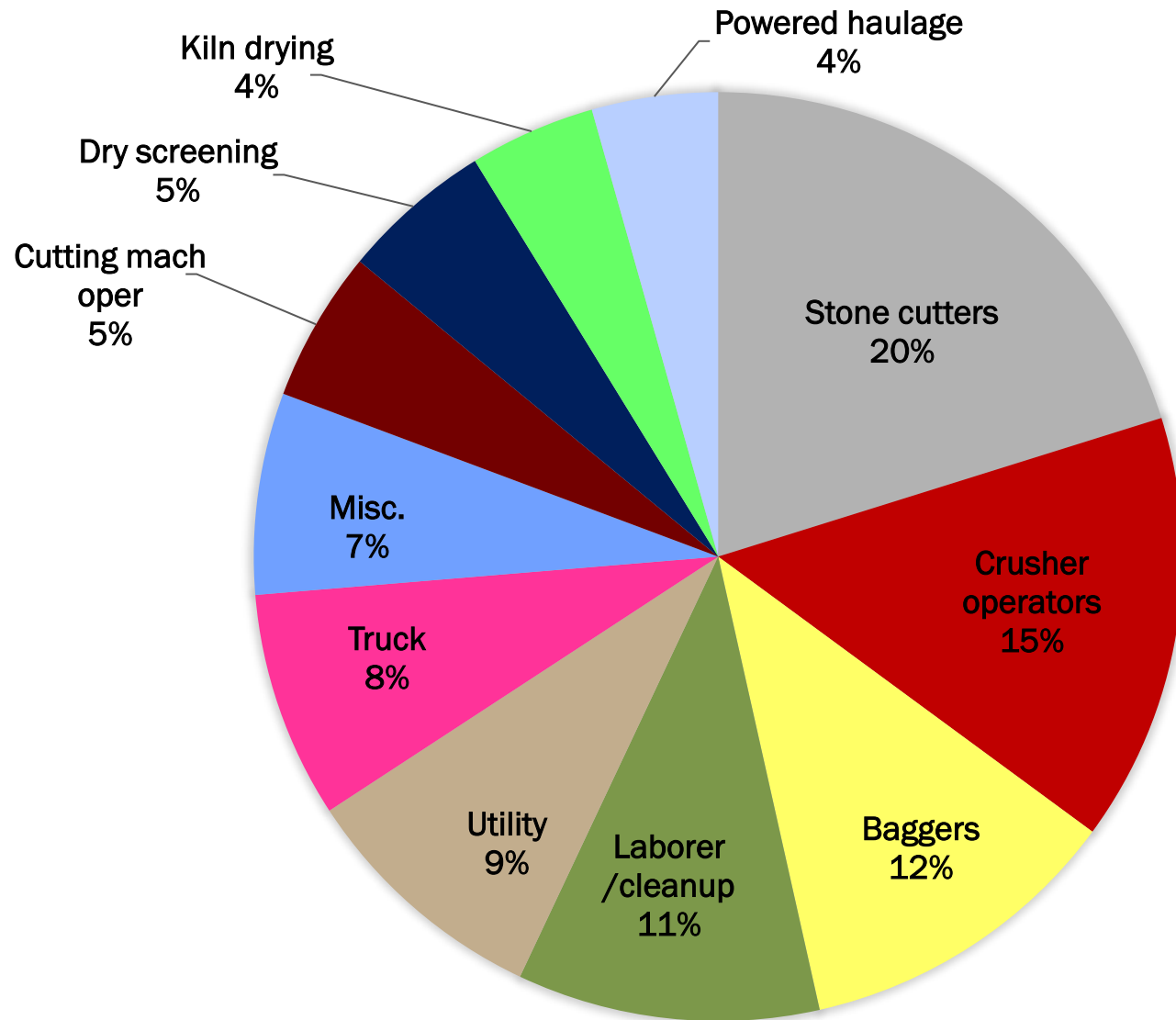
Occupation	% Controls by Category CY 2022 Qtr 1-3							Other
	Ventilation	Water	Ventilation and Water	Dust Collector	Enclosed Cab Filtration Systems	Increased Maintenance	Work Practices / Working Up-Wind	
Continuous Mining Machine Operator	9.1%	33.3%	33.3%	0.0%	0.0%	3.0%	15.2%	6.1%
Highwall Drill Operator	0.0%	0.0%	0.0%	0.0%	11.8%	58.8%	29.4%	0.0%
Bulldozer Operator	0.0%	0.0%	0.0%	0.0%	8.3%	91.7%	0.0%	0.0%
Roof Bolter Operator	14.3%	19.0%	9.5%	14.3%	0.0%	4.8%	38.1%	0.0%
Longwall Face Occupations	0.0%	63.6%	9.1%	0.0%	0.0%	9.1%	9.1%	9.1%
Shuttle Car Operator	0.0%	36.8%	15.8%	0.0%	0.0%	0.0%	31.6%	15.8%



# MNM CY2021 Samples > 100 µg/m<sup>3</sup> Silica



# MNM CY2022 Q1-Q3 Samples > 100 µg/m<sup>3</sup> Silica



# Best Practices in Dust Control

## M/NM Mining Occupations with the Highest Exposures to Respirable Crystalline Silica CY2022

Occupation	*Best Practices
Stone Cutter/ Polisher	Wet cutting when possible
	Local Exhaust Ventilation system at the workstation and or area
Crusher Operator	Implement a properly designed wet spray system
	Maintain isolation/enclosures and Local Exhaust Ventilation system
Baggers	Utilize dual-nozzle bagging system for 50- to 100-lb bags
	Local Exhaust Ventilation system or Overhead Air Supply Island System
Truck/Powered Haulage	Enclosed Cab / Dust Collector
	Water Travelways
Labor/Maintenance/Utility	Good housekeeping; no dry sweeping or dry material clean-up
	Control dust from sources such as outside air, dirty clothes, cloth chairs, etc.
Screening	Use wet suppression or Local Exhaust Ventilation
	Isolation and enclosure
Kiln	Environmental Enclosure/Control Room/Maintenance
	Water

# MNM Abatement Measures for Dust Overexposures

## % Controls by Category CY 2022 Qtr 1-3

Occupation							
	Enclosed Cab Filtration Systems	Ventilation	Water	Dust Collector / LEV	Increased Maintenance	Housekeeping / Work Practices	Isolation
Drilling and Blasting	0%	0%	0%	0%	100%	0%	0%
Mobile Equipment	0%	0%	0%	0%	100%	0%	0%
Crusher Operator	0%	0%	27%	0%	64%	9%	0%
Screening	0%	25%	0%	0%	75%	0%	0%
Cutting/Splitting	0%	26%	11%	42%	0%	0%	21%
Kiln	0%	0%	25%	0%	75%	0%	0%
Bagger	0%	17%	0%	50%	33%	0%	0%
Laborer/Maint./Utility	0%	0%	43%	7%	36%	14%	0%

## Part 90 Miner Outreach Campaign

- <https://www.msha.gov/part-90-coal-miners>

30CFR Part 90.100(c) *Mandatory examinations*. For each miner who begins work at a coal mine for the first time, the operator shall provide examinations specified in § 72.100(a) as follows:

- (1) An initial examination no later than 30 days after beginning employment;
- (2) A follow-up examination no later than 3 years after the initial examination in paragraph (c)(1); and
- (3) A follow-up examination no later than 2 years after the examinations in paragraph (c)(2) if the chest x-ray shows evidence of pneumoconiosis or the spirometry examination indicates evidence of decreased lung function. For this purpose, evidential criteria will be defined by NIOSH.