

2021 Fatal Comparison Chart (based on preliminary report data, fatal alerts, & final reports) Updated: 5/20/2021

MNM Total	10	Fatal Date	Coal Total	2	Fatal Date	Total 12
Underground (UG)	2	Feb22, May18	Underground (UG)	2	Jan22, May14	4
Surface & Sur of UG	8	Jan16, Jan19, Feb8, Feb25, Mar5, Mar12, Apr19, Apr22	Surface & Sur of UG	0		8
Found Non-Chargeable			Found Non-Chargeable			
Contractor			Contractor			
Powered Haulage	5	Jan19, Feb8, Feb22, Apr19, Apr22	Powered Haulage	1	Jan22	6
Machinery	3	Jan16, Mar5, May18	Machinery	0		3
Roof, Rib, Highwall Fall	0		Roof, Rib, Highwall Fall	1	May14	1
Electrical			Electrical			
Slip & Fall of Persons	1	Feb25	Slip & Fall of Person	0		1
Fall & Sliding Materials			Fall & Sliding Materials			
Handling Materials	1	Mar12	Handling Materials	0		1
Hand Tools						
Age			Age			
Age 0-19			Age 0-19			
Age 20-29	3	Feb22, Feb25, Apr19	Age 20-29	0		3
Age 30-39	3	Jan19, Feb8, Mar12	Age 30-39	2	Jan22, May14	5
Age 40-49	1	Jan16	Age 40-49	0		1
Age 50-59	1	Apr22	Age 50-59	1		1
Age 60+	1	Mar5	Age 60+	0		1
Experience			Experience			
Less than 1 year	2	Feb8, Apr19	Less than 1 year	0		2
1-9 years	5	Jan16, Feb22, Feb25, Mar12, Apr22	1-9 years	0		5
10-19 years	1	Jan19	10-19	2	Jan22, May14	3
20+	1	Mar5	20+	0		1
Mine Site Experience			Mine Site Experience			
Less than 1 year	4	Jan19, Feb8, Feb25, Apr19	Less than 1 year	1	Jan22	5
1-9 years	4	Jan16, Feb22, Mar12, Apr22	1-9 years	1	May14	5
10-19			10-19			
20+	1	Mar5	20+	0		1
Job/Task Experience			Job/Task Experience			
0-7 days	1	Mar5	0-7 days			1
Less than 1 year	6	Jan19, Feb8, Feb22, Feb25, Mar5, Apr19	Less than 1 year			6
1-9 years	3	Jan16, Mar12, Apr22	1-9 years	2	Jan22, May14	5
10-19			10-19			
20+			20+			
Day of the Week:			Day of the Week:			
Sunday	1	Feb22	Sunday	0		1
Monday	2	Feb8, Apr19	Monday	0		2
Tuesday	2	Jan19, May18	Tuesday	0		2
Wednesday			Wednesday			
Thursday	2	Feb25, Apr22	Thursday	0		2
Friday	2	Mar5, Mar12	Friday	2	Jan22, May14	4
Saturday	1	Jan16	Saturday	0		1

Stay Safe!

2021 Fatal Comparison Chart (based on preliminary report data, fatal alerts, & final reports) Updated: 5/20/2021

2021 - Month	MNM	Coal	Totals	Difference	Totals	2020 - Month	MNM	Coal
January	2	1	3	+1	2	January	2	0
February	3	0	3	0	3	February	2	1
March	2	0	2	+2	0	March	0	0
April	2	0	2	+2	0	April	0	0
May	1	1	2	0	2	May	2	0
June					3	June	3	0
July					3	July	3	0
August					3	August	3	0
September					2	September	2	0
October					5	October	2	3
November					3	November	2	1
December					3	December	3	0
2021 Total:	10	2	12	+5	29	2020 Total:	24	6

Product	2021 Fatal Dates	2021 Total	2020 Total	State (2021)	Total	MNM	Coal	Fatal Date
Alumina				Alaska	1	1	0	Jan16
Barium			1	Illinois	1	1	0	Mar5
Cement			1	Missouri	2	2	0	Feb8, Mar12
Clay				Nebraska	1	1	0	Apr22
Coal	Jan22, May14	2	5	Nevada	1	1	0	Feb25
Copper				Pennsylvania	1	0	1	May14
Diatomaceous Earth				Tennessee	2	2	0	Feb22, May18
Gold Ore			1	Texas	1	1	0	Apr19
Granite			1	Utah	1	1	0	Jan19
Gypsum				West Virginia	1	0	1	Jan22
Iron Ore								
Kaolin								
Lead Ore	Jan16	1						
Lime								
Limestone	Feb8	1	5					
Magnesite								
Phosphate								
Potash								
Sand/ Sand & Gravel	Jan19, Feb25, Mar5, Mar12, Apr22	5	10					
Sandstone			2					
Shale								
Silver Ore								
Stone	Apr19	1	1					
Titanium								
Traprock								
Zinc	Feb22, May18	2						
				Part 48 = 4				Part 46 = 8
				All Coal = 2				Non Metal SUR = 8
				MNM: UG = 2				
				Metal: SUR = 0				

Month	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	TOTAL	AVG
January	3	2	2	1	2	3	5	1	3	2	1	24	2.18
February	3	3	0	2	3	1	1	5	5	3	3	29	2.64
March	2	0	3	3	3	3	5	2	3	5	2	30	2.73
April	2	0	0	1	0	2	0	6	3	2	2	18	1.64
May	2	2	3	1	2	2	4	6	1	5	1	29	2.64
June		3	2	3	3	4	3	6	3	2	4	33	3.3
July		3	3	1	4	2	2	2	4	4	2	27	2.7
August		3	5	2	2	1	4	3	3	2	3	28	2.8
September		2	2	1	3	3	2	3	3	5	4	28	2.8
October		5	0	6	4	1	0	3	5	1	6	31	3.1
November		3	2	2	0	0	0	6	5	4	4	26	2.6
December		3	2	4	2	3	3	3	4	1	4	29	2.9
Total:	12	29	24	27	28	25	29	46	42	36	36	331	2.66/mo

Average over past 10 years (2011-2020) = 36 per year

Average over past 5 years (2016-2020) = 27 per year

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2021 – Combined Coal and MNM Fatal

Jan 16

Machinery

Alaska

On Saturday, January 16, 2021, a 47-year-old drill operator with over 7 years of experience was fatally injured while assisting another drill operator in removing the down-hole drill (DHD) from Company Drill #40-008. The driller was installing a J wrench on the DHD wrench slots when the DHD rapidly rotated in a counter-clockwise direction, crushing his right thigh between the J wrench and the drill mast. The machine power was on, and no action was taken to prevent unplanned movement of the DHD.

Cited Regulations: 48.27 and 56.14105

Root Cause:

- Adequate policies and procedures were not in place to ensure miners stayed clear of moving drill parts.
- Policies not in place to ensure that miners turned off or blocked equipment against hazardous motion while conducting maintenance activities.
- Policies were not in place to ensure miners were de-tooling the DHD within the scope of the manufacturer’s instructions.
- The task training program had a deficiency that allowed inadequacies in the miners’ training.

Best Practices:

- Establish and discuss safe work procedures before starting any task. When performing maintenance ensure the equipment is locked/tagged out and adequately blocked from all potential motion.
- Identify and control all hazards. Train all workers to recognize potential hazards and use safe job procedures to eliminate hazards before beginning work.
- Follow manufacturer’s procedures for using equipment, and monitor employees for compliance.
- Position yourself in a safe location away from potential “danger-zone” areas.
- Train miners to safely perform their tasks.
- Conduct equipment inspections and correct any defects affecting safety.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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2021 – Combined Coal and MNM Fatal

Jan 19

Powered Haulage

Utah

On Tuesday, January 19, 2021, a 39-year-old truck driver with over 15 years of total mining experience backed a haul truck to the edge of a dump point that was over steepened by a loader removing material at the bottom of the slope. When the edge of the bank failed, the haul truck traveled backwards and overturned and landed on the roof of the cab.

Cited Regulation: 56.14130(g), 56.9304(a), 56.9301, 56.3130, 56.9304(b)

Root Cause:

- Adequate policies or procedures were not in place to dump material a safe distance from the edge of the dump site.
- Use mining methods that maintained slope stability of the dump bank were not being used. The mining method involved removing material from the toe of the dump bank, creating a hazardous condition at the dump site.
- Adequate dump site restraints were not provided.
- Dump sites were not inspected prior to dumping.
- Miners were allowed to not wear seat belts while operating mobile equipment.

Best Practices:

- Always dump material in a safe location. If ground conditions aren't reliable, dump loads a safe distance back and push the material over the edge.
- Never load material from the toe directly below an active dump point. This may lead to an over steepened and unstable slope.
- Never drive haul trucks beyond cracks on the top of the dump site.
- Always construct substantial berms as a visual indicator to prevent overtravel. Clearly mark dump locations with reflectors and/or markers.
- Always wear a seat belt.
- Install advanced systems that restrain miners during roll-overs.
- Maintain communication between equipment operators and loaders.
- Train miners to use safe dumping procedures and recognize dumping hazards such as material slides and other unsafe conditions.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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2021 – Combined Coal and MNM Fatal

Jan 22

Powered Haulage

West Virginia

On Friday, January 22, 2021, a 38-year-old shuttle car operator with 11 years of experience received fractures to the right lower leg when the shuttle car he was operating was struck in the operator's compartment by another shuttle car. On February 21, 2021, the injured miner passed away as a result of the injuries sustained during the accident.

On May 11, 2021, the Chargeability Review Committee determined that this death should be chargeable to the mining industry.

Cited Regulation: Final Report is not currently available.

Root Cause: Final Report is not currently available.

Best Practices: Fatal Alert is not currently available.

<i>Use the following links to view additional information:</i>		
Preliminary Report	Fatal Alert	Final Report

Stay Safe!

2021 – Combined Coal and MNM Fatal

Feb 8

Powered Haulage

Missouri

On Monday, February 8, 2021, a 38-year-old ground-man with about 8 months experience was fatally injured when he became entangled in a fluted tail pulley while attempting to shovel under an adjacent fluted tail pulley.

Cited Regulation: Final Report is not currently available.

Root Cause: Final Report is not currently available.

Best Practices:

- Design, install, and maintain area guards with signage and locks in addition to a physical barrier. Find more information on area guarding at <https://www.msha.gov/guarding-slide-presentation-guarding-conveyor-belts-metal-and-nonmetal-mines>.
- Design and maintain secure guards so miners can perform routine maintenance on belt conveyor systems without contacting moving machine parts.
- Do not perform work on a belt conveyor until the power is off, locked out and tagged, and machinery components are blocked against motion.
- Never clean pulleys or idlers manually while belt conveyors are operating.
- Establish policies and procedures for conducting specific tasks on belt conveyors.
- Ensure that people assigned to work on belt conveyors are task trained, understand the associated hazards, and demonstrate safe work procedures before beginning work.
- Ensure all new miners receive new miner training and task training.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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Stay Safe!

2021 – Combined Coal and MNM Fatal

Feb 22

Powered Haulage

Tennessee

On Monday, February 22, 2021, a 26-year-old underground chute puller with over 5 years mining experience was fatally injured as a passenger of a rail-mounted locomotive when he was crushed between the deck of the locomotive and an overhead chute

Cited Regulation: Final Report is not currently available.

Root Cause: Final Report is not currently available.

Best Practices:

- Install controls such as rail stops at loading points, crossings, etc., where track equipment must stop.
- Install reflective signs or warning lights well in advance of low clearance areas to alert miners of the upcoming hazard.
- Develop safe working procedures to avoid low clearance and pinch point areas. Monitor workers to ensure these procedures are followed.
- Always look in the direction the equipment is moving in, and keep all body parts within the operator's compartment while it is moving.
- Conduct proper travelway examinations to identify and mitigate the hazards presented by low clearances.
- Train all workers to recognize potential hazards and understand safe job procedures and tasks to eliminate hazards before beginning work

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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Stay Safe!

2021 – Combined Coal and MNM Fatal

Feb 25

Slip and Fall

Nevada

On Monday, February 25, 2021, a 26-year-old plant operator with over 3 years mining experience died after entering a cyclone discharge box. The local fire department recovered the victim lodged in an 18-inch wide discharge pipe that was full of water.

Cited Regulation: Final Report is not currently available.

Root Cause: Final Report is not currently available.

Best Practices:

- Wear a fall protection harness, properly tie off to a permanent support structure, and attach a lifeline when entering a bin or other confined space. Have a second person monitor the lifeline to make sure there is no slack in the fall protection system.
- Use personnel lifts or ladders to safely access elevated work areas.
- Always use fall protection when there's a potential fall hazard.
- Examine work areas and equipment. Report defects and do not use unsafe work equipment.
- Assess risks and hazards before beginning maintenance activities.
- Train miners to safely perform their tasks and properly use their personal protective equipment.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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Stay Safe!

2021 – Combined Coal and MNM Fatal

Mar 5

Machinery

Illinois

On Friday, March 5, 2021, a 63-year-old mine manager with 43 years of mining experience died while operating an excavator along an elevated roadway adjacent to a dredge pond. The ground under one excavator track sloughed off which caused the excavator to overturn, fall about 13 feet, and slide into the pond.

Cited Regulation: Final Report is not currently available.

Root Cause: Final Report is not currently available.

Best Practices:

- Construct berms or install guardrails on roadways where a drop-off exists. Ensure berms and guardrails are at least as high as the mid-axle height of the largest equipment using the roadway.
- Examine and maintain roadways to prevent slope instability such as over steepened banks, sloughs, and cracking on the roadway and bank.
- Install locked gates at the entrances of roadways that are infrequently traveled. Post speed limit signs and install delineators at the edges of roads.
- Always wear seat belts when operating mobile equipment.
- When working near water, wear flotation devices and ensure combination seat belt cutter/window breaker tools are installed in equipment.
- Train equipment operators in the safe performance of their tasks, potential hazards, and the use of alternative/emergency exits in cabs. Examine these exits during preoperational examinations.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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2021 – Combined Coal and MNM Fatal

Mar 12

Handling Material

Missouri

On Friday, March 12, 2021, a 35-year-old miner with 8 years of mining experience was fatally injured while attempting to insert a steel pin into a barge spud beam. The pin was partially inserted into the collar of the hole as the spud continued to lower into the spud well. The victim was struck in the face by the cantilever action of the safety pin.

Cited Regulation: Final Report is not currently available.

Root Cause: Final Report is not currently available.

Best Practices:

- Always ensure hoisted equipment movement has stopped and the hoist operator has set the brake before working on hoisted equipment.
- Ensure the hoist operator can see miners working on hoisted equipment.
- Establish an effective communication protocol, which includes confirmation of instructions, between the hoist operator and miners working on hoisted equipment.
- Position yourself in a safe location to maintain balance and protection from any energy of cantilevering tools or objects.
- Stay in a Safe Zone when working around cables and sheave wheel systems.
- Always maintain a work area that is clean and clear of debris.
- Train equipment operators in the safe performance of their tasks and potential hazards.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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Stay Safe!

2021 – Combined Coal and MNM Fatal

Apr 19

Powered Haulage

Texas

On Monday, April 19, 2021, a 28-year-old haul truck driver with 37 weeks of experience stopped his haul truck in front of his personal vehicle to get his lunch. While standing and eating his lunch, the haul truck rolled forward, pinning the miner between the haul truck and his personal truck.

Cited Regulation: Final Report is not currently available.

Root Cause: Final Report is not currently available.

Best Practices:

- Do not leave mobile equipment unattended unless the controls are placed in the park position and the brake is set. NEVER use a steering column-mounted "dump brake" for parking.
- When parking mobile equipment on a grade, chock the wheels or turn them into a bank. Maintain equipment braking systems in good repair and adjustment.
- Position yourself in a safe location away from potential "danger-zone" areas.
- Train miners to safely perform their tasks.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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Stay Safe!

2021 – Combined Coal and MNM Fatals

Apr 22

Powered Haulage

Nebraska

On April 22, 2021, a 53-year-old dredge operator with 6 years of mining experience was fatally injured when leaving the mine site in his personal pickup truck. The manual swing barrier gate was partially closed. A gate pole entered the truck's windshield as the pickup truck approached, striking the victim and causing fatal injuries.

Cited Regulation: Final Report is not currently available.

Root Cause: Final Report is not currently available.

Best Practices:

- Ensure that manual swing barrier gates can be secured when opened or closed to prevent unintentional movement.
- Conduct thorough travelway examinations to identify and mitigate hazards.
- Paint or tape swing barrier gates with reflective and distinguished markings to differentiate them from their surroundings. Install additional lighting near barrier gates.
- Maintain proper speed for road conditions.
- Establish safe traffic patterns with proper signage.
- Be alert to road conditions and always keep a clear line of sight.

<i>Use the following links to view additional information:</i>		
Preliminary Report	Fatal Alert	Final Report

Stay Safe!

2021 – Combined Coal and MNM Fatal

May 14

Fall of Roof

Pennsylvania

On Friday, May 14, 2021, a 32-year-old continuous miner operator with 11 years experience was fatally injured by a roof fall that occurred at a Pennsylvania coal mine.

Cited Regulation: Final Report is not currently available.

Root Cause: Final Report is not currently available.

Best Practices: Fatal Alert is not currently available.

<i>Use the following links to view additional information:</i>		
Preliminary Report	Fatal Alert	Final Report

May 18

Machinery

Tennessee

On Tuesday, May 18, 2021. A fatal accident occurred at an underground zinc mine.

Cited Regulation: Final Report is not currently available.

Root Cause: Final Report is not currently available.

Best Practices: Fatal Alert is not currently available.

<i>Use the following links to view additional information:</i>		
Preliminary Report	Fatal Alert	Final Report

MSHA investigates all deaths on mine property; however, some deaths are unrelated to mining activity and are not counted in the statistics MSHA uses to assess the safety performance of the mining industry. These deaths are termed "non-chargeable" and include homicides, suicides, deaths due to natural causes, and deaths involving trespassers.

MSHA uses a formal Fatality Review Committee to determine whether a questionable death is chargeable. Currently, there is not any 2021 mining accidents pending chargeability determination.

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2021 – Combined Coal and MNM Fatals

The following are various links to [Safety Training Materials](#) on MSHA's website.

- Toolbox Safety Talks: <https://arlweb.msha.gov/epd/efsms/toolbox/>
- Mobile Equipment Safety: <https://www.msha.gov/training-education/safety-and-health-materials/safety-topic-mobile-equipment-surface-mines>
- Conveyor Systems: <https://www.msha.gov/training-education/safety-and-health-materials/safety-topic-conveyor-systems>
- Impoundments and Dams: <https://www.msha.gov/training-education/safety-and-health-materials/safety-topic-impoundments-and-dams>
- Seat Belts: <https://www.msha.gov/training-education/safety-and-health-materials/safety-topic-seat-belt-usage>
- Guarding: <https://www.msha.gov/guarding-slide-presentation-guarding-conveyor-belts-metal-and-nonmetal-mines>
- Training Videos: <https://www.msha.gov/msha-training-videos>
- Another very helpful item is MSHA's Data Retrieval System. With your Mine ID number, you can research the violation history and accident history of the mine. This is great site-specific information to use during annual refresher. When you type in the ID number, it will pop up a suggestion; always click on the suggestion instead of clicking enter. <https://www.msha.gov/mine-data-retrieval-system>

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