

2018 Fatal Comparison Chart (based on preliminary report data, fatalgrams, & final reports) Updated: 3/15/2018

<b>MNM Total</b>	<b>2</b>	<b>Fatal #'s</b>	<b>Coal Total</b>	<b>2</b>	<b>Fatal #'s</b>	<b>Total</b>
Underground	0		UG	1	1	1
Surface & Sur of UG	2	1, 2	Surface & Sur of UG	1	2	3
Other			Other			
<b>Contractor</b>			<b>Contractor</b>			
Powered Haulage	1	1	Powered Haulage	0		1
Machinery	1	2	Machinery	0		1
Roof, Rib, Highwall Fall	0		Roof, Rib, Highwall Fall	1	1	1
Electrical	0		Electrical	1	2	1
Slip & Fall of Persons			Slip & Fall of Person			
Fall & Sliding Materials			Fall & Sliding Materials			
Ignition/Exploding Gas			Ignition/Explosion			
Hoisting			Hoisting			
Inundation			Inundation			
Exploding Vessel			Exploding Vessel			
Maintenance/Repair Involved			Maintenance/Repair Involved	1	1, 2	2
Examiner, Supervisor, Owner			Examiner, Supervisor, Owner			
<b>Age 0-19</b>			<b>Age 0-19</b>			
Age 20-29			Age 20-29			
Age 30-39	1	1	Age 30-39	1	2	2
Age 40-49			Age 40-49			
Age 50-59			Age 50-59	1	1	1
Age 60+			Age 60+			
<b>Experience</b>			<b>Experience</b>			
Less than 1 year			Less than 1 year			
1-9 years	1	1	1-9 years			1
10-19 years			10-19	1	1	1
20+			20+	1	2	1
<b>Mine Site Experience</b>			<b>Mine Site Experience</b>			
Less than 1 year	1	1	Less than 1 year	1	2	2
1-9 years			1-9 years	1	1	1
10-19			10-19			
20+			20+			
<b>Job/Task Experience</b>			<b>Job/Task Experience</b>			
0-7 days			0-7 days			
Less than 1 year	1	1	Less than 1 year	1	2	2
1-9 years			1-9 years	1	1	1
10-19			10-19			
20+			20+			
<b>Shift Time</b>			<b>Shift Time</b>			
1 <sup>st</sup> Shift (7am-3pm)	1	1	1 <sup>st</sup> Shift (7am-3pm)			1
2 <sup>nd</sup> Shift (3pm-11pm)			2 <sup>nd</sup> Shift (3pm-11pm)	1	2	1
3 <sup>rd</sup> Shift (11pm-7am)			3 <sup>rd</sup> Shift (11pm-7am)	1	1	1
<b>Day of the Week:</b>			<b>Day of the Week:</b>			
Sunday			Sunday			
Monday			Monday			
Tuesday	1	2	Tuesday	1	1	2
Wednesday	0		Wednesday	1	2	1
Thursday	1	1	Thursday			1
Friday			Friday			
Saturday			Saturday			

**Focus on your safety goal with purpose!**

2018 - Month	MNM	Coal	Totals	Difference	Totals	2017 - Month	MNM	Coal
January	1	0	1	-1	2	January	1	1
February	0	2	2	-1	3	February	0	3
March	1	0	1	-2	3	March	2	1
April					0	April	0	0
May					2	May	0	2
June					3	June	1	2
July					4	July	3	1
August					2	August	0	2
September					3	September	2	1
October					4	October	3	1
November					0	November	0	0
December					2	December	1	1
<b>2018 Total:</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>-4</b>	<b>28</b>	<b>2017 Total:</b>	<b>13</b>	<b>15</b>

Product	Fatal #'s For 2018	2018 Total product	2017 Total product	2016 Total product
Alumina				0
Cement			2	2
Clay				0
<b>Coal</b>	1-2	<b>2</b>	<b>15</b>	<b>8</b>
Copper			1	0
Diatomaceous Earth			1	0
Dimension Stone				0
Gold Ore			2	1
Granite			1	1
Gypsum				0
Iron Ore				0
Kaolin				0
Lead Ore				0
Lime				0
<b>Limestone</b>			<b>2</b>	<b>4</b>
Magnesite				1
Phosphate				1
Salt				0
<b>Sand &amp; Gravel</b>	1, 2	<b>2</b>	<b>3</b>	<b>6</b>
Sandstone				0
Shale				0
Silver Ore				0
Stone			1	0
Titanium				1

State (2018)	Total	MNM	Coal	Fatal #
Iowa	<b>1</b>	1	0	M1
Utah	<b>1</b>	1	0	M2
West Virginia	<b>2</b>	0	2	C1, C2

Part 48 = 2	Part 46 = 2
All Coal = 2 MNM: UG = 0 SUR = 0	Non Metal SUR# 1, 2

**Did you complete a  
Workplace Exam  
today?**

Keep your  
Thoughts and Behaviors  
Focused on your Safety Goal!

Month	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	TOTAL	AVG
January	1	2	3	5	1	3	2	1	4	3	6	31	2.82
February	2	3	1	1	5	5	3	3	0	4	5	32	2.91
March	1	3	3	5	2	3	5	2	1	2	2	28	2.8
April		0	2	0	6	3	2	2	33	4	4	56	5.6
May		2	2	4	6	1	5	1	6	3	7	37	3.7
June		3	4	3	6	3	2	4	6	5	4	40	4
July		4	2	2	2	4	4	2	3	2	3	28	2.8
August		2	1	4	3	3	2	3	4	1	4	27	2.7
September		3	3	2	3	3	5	4	1	4	3	31	3.1
October		4	1	0	3	5	1	6	6	3	11	40	4
November		0	0	0	6	5	4	4	3	2	1	25	2.5
December		2	3	3	3	4	1	4	5	2	3	30	3
<b>Total:</b>	<b>4</b>	<b>28</b>	<b>25</b>	<b>29</b>	<b>46</b>	<b>42</b>	<b>36</b>	<b>36</b>	<b>72</b>	<b>35</b>	<b>53</b>	<b>405</b>	<b>3.33/mo</b>
									UBB				Average: 40.2/yr

Average over past 10 years (2008-2017) = 41 per year

Average over past 5 years (2013-2017) = 34 per year

**Focus on your safety goal with purpose!**

# 2018 - MNM Fatal

## Fatal #1 – Powered Haulage

Iowa

On Thursday, January 25, 2018 (at 2:42 pm), a 38-year-old equipment operator with 4 years mining experience was fatally injured while hauling material from the pit to a stockpile. The articulated haul truck travelled through a berm and into an ice covered pond, submerging the truck’s cab. Rescuers utilized divers and tow trucks to pull the submerged truck from the pond and recover the victim.

### Best Practices:

- Do not operate heavy equipment when fatigued. The effects of fatigue include tiredness, reduced energy, and physical or mental exhaustion. These conditions become progressively worse as fatigue increases.
- Maintain control and stay alert when operating mobile equipment. Monitor persons routinely to determine safe work procedures are followed.
- Conduct adequate pre-operational checks and correct any defects affecting safety in a timely manner prior to operating mobile equipment. Maintain equipment braking and steering systems in good repair and adjustment.
- Operate mobile equipment at speeds consistent with the conditions of roadways, tracks, grades, clearance, visibility, curves, and traffic.
- Ensure that berms are adequate for the vehicles present on site, including but not limited to height, material, and built on firm ground.
- Ensure that all exits on mobile equipment cabs, including alternate and emergency exits, are maintained and operable.
- Use seat belts when operating mobile equipment.

<i>Use the following links to view additional information:</i>		
<a href="#">Preliminary Report</a>	<a href="#">Fatal Alert</a>	Final Report

## 2018 - MNM Fatal

### Fatal #2 – Machinery

### Utah

On Tuesday March 14, 2018- S - Machinery - Salt Lake County, Utah - Rocky Mountain District

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. *Six (6) MNM mining accidents are pending chargeability determination.*

# 2018 - Coal Fatal

## Fatal #1 – Fall of Rib

## West Virginia

On Tuesday, February 6, 2018 (3:30 am), a 52-year-old electrician with 13 years experience was servicing a continuous-mining machine when part of the rib fell and struck him.

### Best Practices:

- Be aware of potential hazards when working or traveling near mine ribs, especially when geologic conditions, or an increase in mining height, could cause roof or rib hazards. Take additional safety precautions while working in these conditions.
- Correct all hazardous conditions before allowing miners to work and travel in these areas. Adequately support or scale any loose roof or rib material from a safe location. Use a bar of suitable length and design when scaling.
- Train all miners to conduct thorough examinations of the roof, face, and ribs in their work areas, including more frequent examinations when conditions change.
- Install rib bolts with adequate surface area coverage, during the mining cycle, and in a consistent pattern for the best protection against rib falls.
- Know and follow the approved roof control plan. The roof control plan only contains minimum safety requirements. Additional support may be required when roof or rib fractures, or other abnormalities are detected.

*Use the following links to view additional information:*

<a href="#">Preliminary Report</a>	<a href="#">Fatal Alert</a>	Final Report
------------------------------------	-----------------------------	--------------

# 2018 - Coal Fatal

## Fatal #2 – Electrical

## West Virginia

On February 21, 2018 (5:36 pm), a Highwall Mining Machine Operator with 21 years mining experience was fatally injured when he contacted one phase of a 7,200 VAC electrical circuit. The victim was troubleshooting the electrical system that supplies electrical power to the mining machine. He entered the transformer station on the mining machine and contacted an energized connection on the visual disconnect.

### Best Practices:

- Lock-Out and Tag-Out the electrical circuit yourself and NEVER rely on others to do this for you.
- Follow these steps BEFORE entering an electrical enclosure or performing electrical work: Locate the circuit breaker or load break switch away from the enclosure and open it to de-energize the incoming power cable(s) or conductors.
  - Locate the visual disconnect away from the enclosure and open it to provide visual evidence that the incoming power cable(s) or conductors have been de-energized.
  - Lock-out and tag-out the visual disconnect.
  - Ground the de-energized conductors.
- Wear properly rated and well maintained electrical gloves when troubleshooting or testing energized circuits. After the electrical problem has been found, follow the proper steps before performing electrical work
- Use properly rated electrical meters and non-contact voltage testers to ensure electrical circuits have been de-energized.
- Install warning labels on line side terminals of circuit breakers and switches stating that the terminal lugs remain energized when the circuit breaker or switch is open.
- Electrical work must be performed by a qualified electrician or someone trained to do electrical work under the direct supervision of a qualified electrician.

*Use the following links to view additional information:*

<a href="#">Preliminary Report</a>	<a href="#">Fatal Alert</a>	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

## 2018 - Coal Fatal

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. *One (1) coal mining accident is pending chargeability determination.*