

**Overview of Deaths in
Metal/Nonmetal Mining
From October 2013 to January 2015**

January 27, 2015

37 Metal and Nonmetal Fatal Accidents (10/13 – 1/26/15)

- 10 Underground – 27 Surface
- 10 Contractors – 27 Mine Employees
- Classifications
 - 9 Powered Haulage
 - 7 Falling/Sliding Material
 - 5 Fall of Person
 - 4 Machinery
 - 3 Explosives
 - 2 Fall of Rib
 - 2 Electrical
 - 2 Hoisting
 - 1 Fall of Roof
 - 1 Other (Drowning)
 - 1 Explosion of Gas

Fatal Accidents by Commodity

- Sand & Gravel – 9
- Limestone – 5
- Cement – 4
- Silver – 3
- Gold – 2
- Lime – 2
- Granite – 2
- Sand – 1
- Iron Ore – 1
- Gypsum – 1
- Salt – 1
- Lead/Zinc – 1
- Sandstone – 1
- Alumina – 1
- Common Clay -1
- Fire Clay – 1
- Phosphate – 1

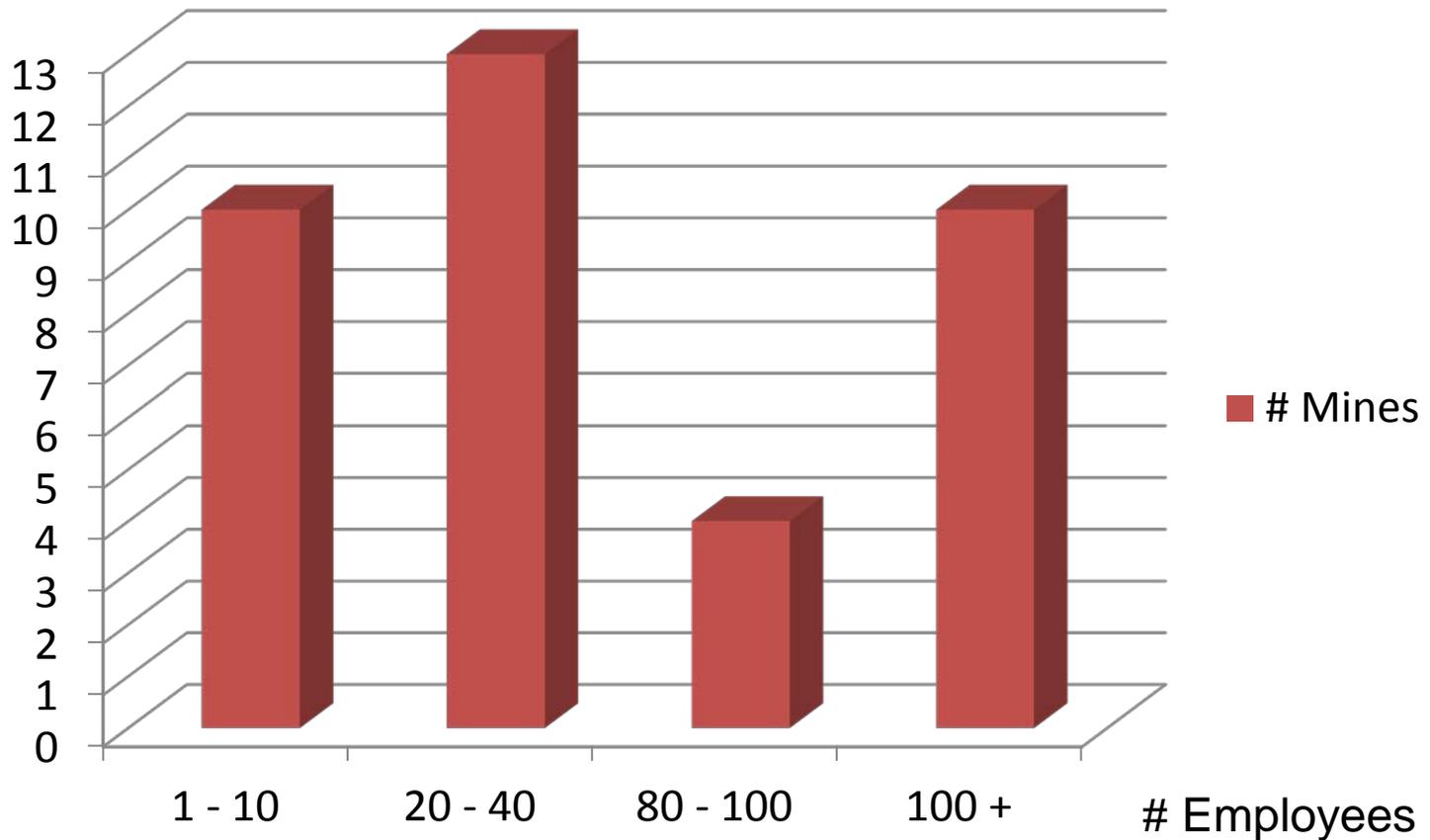
Fatal Accidents by State

- Kentucky – 3
- Colorado – 2
- Georgia – 2
- Kansas – 2
- Missouri – 3
- Nevada – 3
- South Carolina – 2
- California – 2
- Iowa - 1
- Louisiana – 1
- New York – 2
- Utah – 1
- Virginia – 2
- Texas – 4
- Idaho – 1
- Florida – 2
- Montana – 1
- Ohio – 1
- Pennsylvania – 2

Fatal Accidents by Occupation

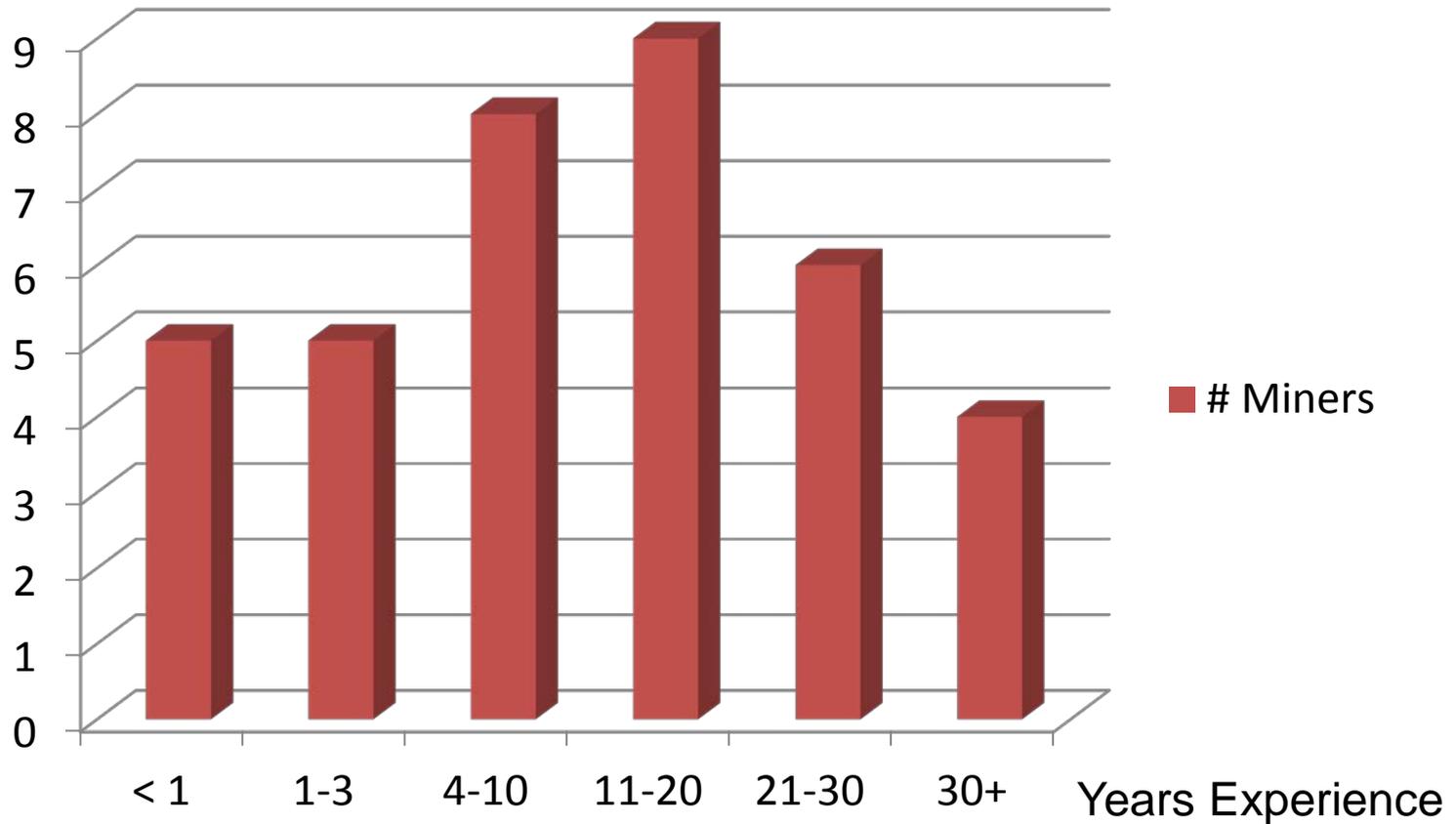
- Supervisor – 9
- Miner/Laborer - 11
- Truck Driver – 7
- Scaler – 3
- Electrician – 1
- Dozer Operator – 1
- Mechanic – 2
- Plant Operator – 2
- Sales Manager – 1

Fatal Accidents by Mine Size

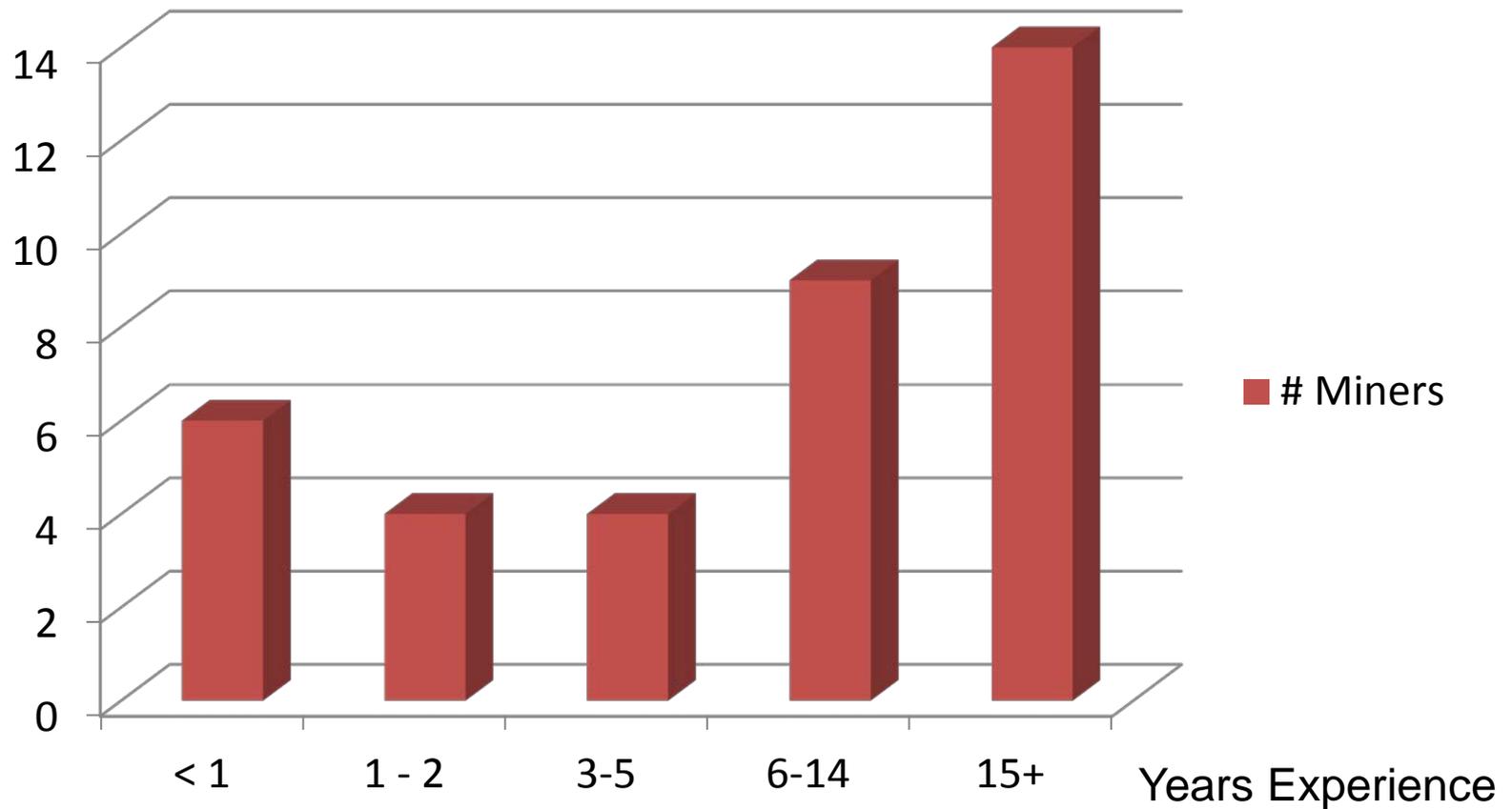


Note: Two 100+ employee mines had a double fatality

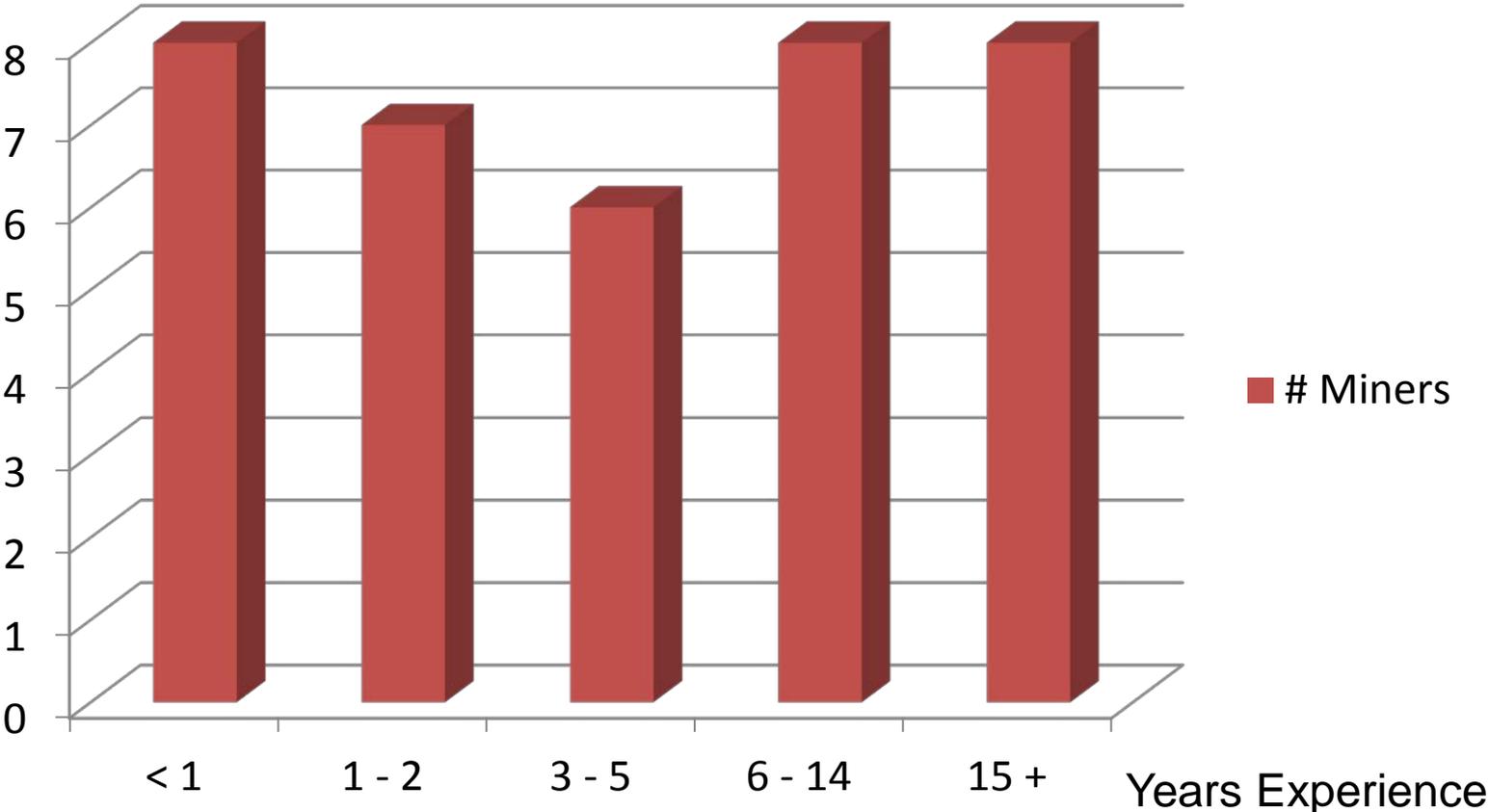
Fatal Accidents by Total Experience



Fatal Accidents by Experience at Mine



Fatal Accidents by Experience at Activity



Rules to Live By (RTL) Contributory Standards
28 of the 37 fatal accident investigations have been completed to date. Of the 28 accident investigations, RTL has been cited 24 times.

- 46.7(a): New task training, #4, #7, #8, #14, #15, #18
- 56.3130: Wall, bank, and slope stability, #21, #3
- 56.3200: Correction of hazardous conditions, #21
- 56.9101: Operating speeds & control of equipment, #15, #7, #8, #11, #16
- 56.12017: Work on power circuits, #18
- 56.14100(b): Safety defects, examination, correction, & records, #14, #2
- 56.14105: Procedures during repairs or maintenance, #1, #19
- 56.14130(g): Roll over protective structures (ROPS) & Seatbelts, #8
- 56.14205: Machinery, equip & tools used beyond design, #14
- 56.14207: Parking procedures for unattended equipment, #19
- 56.15005: Safety belts and lines, #22
- 56.15020: Life jackets and belts, #22

**Contributory Standards Cited to date
for 28 of 37 Fatal Accidents.
Investigations not completed for 9 fatalities**

- 46.7(b): New task training, #21, #22
- 46.11(a): Site specific hazard training, #16
- 48.7(b): New task training, #16, #17
- 48.27: Training of miners assigned to a task with no experience, #11
- 50.10(d): Immediate notification, #16, #17
- 57.3201: Location for performing scaling, #5, #6
- 56.3401: Examination of ground conditions, #21
- 57.7052(b): Drilling positions, #10
- 56.6306(e): Loading, blasting, & security, #19
- 57.6306(g): Loading, blasting, and security, #16, #17
- 57.6900: Damaged or deteriorated explosive material, #16, #17
- 57.8520: Ventilation plan, #16, #17

**Contributory Standards Cited to date
for 28 of 37 Fatal Accidents.
Investigations not completed for 9 fatalities**

- 57.8528: Unventilated areas, #16, #17
- 56.9201: Loading, hauling, and unloading of equipment or supplies, #4
- 56.11001: Use of ladders, #14, #18
- 57.11001: Use of ladders, #9
- 57.11002: Handrails and toeboards, #9
- 57.11012: Protection for openings around travelways, #9
- 56.11016: Snow and ice on roads and travelways, #22
- 56.12004: Electrical conductors, #15
- 56.14107(a): Moving machine parts, #1
- 56.14109: Unguarded conveyors with adjacent travelways, #12
- 56.14131(a): Seatbelts for haulage trucks, #15

**Contributory Standards Cited to date
for 28 of 37 Fatal Accidents.
Investigations not completed for 9 fatalities**

- 56.14202: Manual cleaning of conveyor pulleys, #1
- 56.14211(c): Blocking equipment in a raised position, #17
- 56.15002: Hard hats, #4
- 57.15005: Safety belts and lines, #13
- 56.15006: Protective equipment and clothing for hazards, #11
- 56.18002(a): Examination of working places, #2, #22
- 57.18002(c): Examination of working places, #16, #17
- 57.18025: Working alone, #10
- 57.18006: New employees, #16, #17
- 56.18020: Working alone, #17
- 57.19120: Procedures for testing, inspection, & maintenance, #13
- 57.20003(a): Housekeeping, #10

Fatalities -- Accident Injury Rates

	Fatal #	NFDL	National
CY 13	14	0.84	2.00
	15	0.00	1.60
	16 & 17	1.96	2.16
	18	0.90	1.60
	19	0.00	1.60
	21	0.00	1.54
	22	0.00	1.28
CY 14	1	2.61	1.51
	2	1.26	2.00
	3	0.00	1.28
	4	n/a	1.28
	5 & 6	0.67	1.62
	7	0.00	1.28
	8	2.18	1.54
	9	0.00	1.62
	10	1.94	2.16
	11	0.00	1.52
	12	0.00	1.27
	13	0.00	1.48
	14	0.00	1.41
	15	0.00	1.41

**FATALS
OCTOBER – DECEMBER
CY 2013**

Fatality #14 - October 17, 2013
(Victim Died October 19, 2013)
Slip/Fall of Person – California – Cement
National Cement Company Of California Inc -
Lebec Cement Plant

On October 17, 2013, a 52-year old electrician with 5 years of experience was injured at a cement operation. The victim was standing on a step ladder, pulling cable in a cable tray. The mounting bracket for the tray broke loose from the wall and the tray struck the step ladder. The victim fell 5 feet from the ladder, striking his head on the concrete floor. The victim was transported to a hospital where he died on October 19, 2013.



Fatality #15 - November 7, 2013
Powered Haulage – Georgia – Crushed, Broken Granite
Vulcan Construction Materials, L.P. –
Lithia Springs Quarry

On November 7, 2013, a 46-year old equipment operator with 27 years of experience was killed at a granite mine. The victim was operating a haul truck when it veered off the left side of a haul road and traveled through a berm. The haul truck went over an embankment and overturned in a settling pond.



Fatality #16 & #17- November 17, 2013
Explosives/Breaking Agents – Colorado – Silver
Star Mine Operations, LLC - Revenue Mine

On November 17, 2013, a 33-year old powderman trainee with 5 weeks of experience and a 59-year old shift supervisor with 36 years of experience were killed at a silver mine. The two miners were in an area of the mine where explosives had been detonated the day before. Other miners working in the area were able to evacuate. Mine rescue teams entered the mine, found the two victims, and brought them to the surface. During the recovery operation, rescue teams detected fatal levels of carbon monoxide. Twenty miners were taken to the hospital and three were kept overnight.



Fatality #18 - November 18, 2013
(Victim Died November 22, 2013)
Electrical – Kentucky – Crushed, Broken Limestone NEC
Pine Bluff Sand & Gravel Company - Cumberland River Quarry

On November 18, 2013, a 33-year old contract electrician foreman with 14 years of experience was injured at a crushed stone mine. The victim was working in a 480-volt electrical enclosure, pulling cable for a new pump that was being installed, when he contacted energized conductors. He was transported to a hospital where he died on November 22, 2013.



Fatality #19 - December 4, 2013
Explosives/Breaking Agents – Kansas – Crushed, Broken Limestone
Bayer Construction Company, Inc. - Kansas Falls Quarry

On December 4, 2013, a 63-year old lead man with 16 years of experience was killed at a crushed stone mine. The victim initiated a blast and was struck by flyrock from the blast. He was standing 153 feet from the nearest blast hole and was struck by rock as large as 19 inches long by 14 inches wide by 7 inches thick.



Fatality #21 - December 13, 2013

Falling/Sliding Material – Georgia - Construction Sand and Gravel
Brown Brothers Sand Company - Wittichen Stephen Plants

On December 13, 2013, a 53-year old utility worker with 19 years of experience was killed at a sand mine. The victim was standing near the edge of a bank when it collapsed engulfing him.



Fatality #22 - December 10, 2013
Other (Drowning) – Kentucky -
Construction Sand and Gravel
Hunter Sand & Gravel, LLC. - Dredge IV

On December 10, 2013, a 27-year old deck hand with 4 years and 8 months of experience drowned at a dredge operation. He was working on a dredge that had a barge attached to it. The victim stepped on the barge and fell into the water.



FATALS CY 2014

Fatality #1 - February 1, 2014
Powered Haulage – Utah - Iron Ore
Gilbert Development Corporation (GDC)
Comstock / Mountain Lion

On February 1, 2014, a 56-year old contract belt operator with 4 months of experience was killed at an iron ore mine. The victim was cleaning a return idler inside the frame of a belt conveyor when he became entangled between the return idler and the belt.



Fatality #2 - February 21, 2014
Fall of Person –Kentucky - Cement
CEMEX, Inc. - Kosmos Cement Co.

On February 21, 2014, a 34-year old contract laborer with 6 months of experience was killed at a cement operation when attempting to access an elevator in the finish mill. When the victim opened the elevator door on the fourth floor landing, he stepped into the elevator shaft and fell approximately 51 feet to the top of the elevator car located on the ground floor.



Fatality #3 - February 28, 2014
Falling/Sliding Material – New York - Construction Sand and Gravel
East Coast Mines Ltd - East Coast Mines Ltd

On February 28, 2014, a 50-year old supervisor with 27 years of experience was killed at a sand and gravel mine. The victim was at a backfill site and approached an 80-foot high bank when it failed, engulfing him.

Fatality #4 - March 27, 2014
Falling/Sliding Material -Virginia -
Construction Sand and Gravel
Baillio Sand Company Inc. - Lord Farm #5

On March 27, 2014, a 64-year-old foreman with 32 years of experience was seriously injured when he was struck by a section of plastic water pipe as it was being moved by an excavator. The victim was transported to a hospital where he died on March 30, 2014, as a result of his injuries.



Fatality #5 & Fatality #6-April 11, 2014

Fall of Rib. -Missouri - Lime

Mississippi Lime Company - Mississippi Lime Company-Ste. Genevieve

On April 11, 2014, a 53-year-old scaler with 8 years of experience and a 29-year old scaler with 8 years of experience were killed at an underground limestone mine. The miners were in a basket on a boom truck scaling a pillar about 40 feet above the mine floor. Large slabs of rock fell from the rib and struck an outrigger and the back of the truck, causing the boom to fall to the mine floor.



Fatality #7 -April 17, 2014
Machinery -Kansas - Construction Sand and Gravel
Hafenstine Construction - Hafenstine Plant #1

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.



Fatality #8 - April 24, 2014
Machinery - Louisiana - Fire Clay
Big River Industries - Gravelite Division

On April 24, 2014, a 50-year-old contract dozer operator with 23 years of experience was killed at a fire clay mine. The victim had been pushing clay and was found lying on the ground approximately five feet behind the dozer.



Fatality #9 - February 27, 2014
Fall of Person - Iowa - Crushed, Broken Limestone NEC
Martin Marietta Materials, Inc. - Ames Mine

On February 27, 2014, a 27-year-old contract mechanic with 2 years of experience was killed at an underground crushed stone mine. The victim was repairing a hydraulic pump on a scaler when he fell from the attached walkway approximately five feet to the ground. The victim was airlifted to a hospital where he died on February 28, 2014.



Fatality #10 - April 28, 2014
Machinery - Nevada - Gold Ore
Klondex Midas Mine Inc. - Midas Mine



The miner was drilling with a jackleg drill when his clothing became entangled in the drill steel of the machine.

Fatality #11 - May 1, 2014
Powered Haulage - Nevada - Gypsum
Silver State Minerals LLC - Gypsum Mountain



On May 1, 2014, a 57-year-old co-owner with 1 year of experience was killed at a gypsum mine. The victim was driving an all terrain vehicle on the mine site to place signs around the perimeter of the mine. He lost control of the vehicle while traveling on a steep hill and it overturned onto him.

Fatality #12 - May 9, 2014
Powered Haulage - Texas - Construction Sand and Gravel
Mississippi Sand, LLC - Mississippi Sand Seagraves



On May 9, 2014, a 20-year-old groundman with 9 weeks of experience was killed at a sand and gravel mill. The victim was unloading a rail car using a mobile rail barge truck conveyor and was caught in the feed end of the conveyor.

Fatality #13 – June 2, 2014
Hoisting – Idaho – Silver
Silver Opportunity Partners LLC – Sunshine Mine



On June 2, 2014, a 36-year-old shaft repairman with 18 years of experience was killed at an underground silver mine. Two miners were working in a shaft standing on a work platform attached to a skip. The skip was hoisted and the victim was crushed between the skip and the shaft timber.

Fatality #14 - June 18, 2014
Ignition/Explosion of Gas - South Carolina - Construction Sand and Gravel
Hanson Aggregates Southeast, LLC - Brewer Sand



On June 18, 2014, a 41-year-old production supervisor with 19 years of mining experience was killed at a sand and gravel mine. The victim and two contract workers were attempting to remove an impeller that was seized onto the threaded shaft of a centrifugal pump. After several failed attempts to unscrew the impeller, heat from a torch was applied to the enclosed hub on the impeller. While applying heat, the hub exploded and metal fragments struck the victim.

Fatality #15 - July 21, 2014
Electrical - South Carolina - Construction Sand and Gravel
Murray Mines Inc. - Murray Mines Inc.



On July 21, 2014, a 28-year-old assistant plant manager with 11 years of mining experience was killed at a sand and gravel dredge operation. He was riding in an aluminum boat that became stuck in low water on top of 480 volt energized power conductors. The victim was electrocuted when he exited the boat, attempting to pull slack on the power conductors.

Fatality #16 - July 23, 2014
Powered Haulage - Florida - Cement
Cemex Construction Materials of Florida LLC - Brooksville South Cement Plant



On July 23, 2014, a 51-year-old contract truck driver with 30 years of experience was killed at a cement operation while delivering a load of fly ash. The victim exited the truck to remove the tarp. A front-end loader backed down a ramp and struck the victim, pinning him against the truck.

Fatality #17 - August 2, 2014
Falling Material - Montana - Construction Sand and Gravel
Fossum Ready Mix - Belzer Pit



On August 2, 2014, a 53-year-old plant operator with 25 years of experience was killed at a sand and gravel mine. The victim was working under the raised bed of a dump truck when the wooden block supporting the load suddenly failed, allowing the bed to fall and pin him. The victim was working alone and was not found until 10 a.m. on August 3, 2014.

Fatality #18 - August 25, 2014
Fall of Person - New York - Crushed, Broken
Limestone NEC
Gardenscape of New York - Gardenscape of New York



On August 25, 2014, a 54-year-old truck driver with 1 year of experience was killed at a limestone mine. The victim went to a storage building to get some wooden planks. He climbed a stack of loaded pallets to get to the planks that were near the rafters and fell approximately 8 feet to the ground below. The next day two coworkers arrived at the mine and found the victim at approximately 6:05 a.m.

Fatality #19 - September 26, 2014
Powered Haulage - Texas - Salt
United Salt Corporation - Hockley Mine



On September 26, 2014, a 55-year-old maintenance mechanic with approximately 2 years of experience was killed on the surface of an underground salt mine. The victim was performing maintenance on a forklift in a mill building when the forklift moved forward, pinning him against a wooden support pole.

Fatality #20 - October 10, 2014
Fall of Person - Pennsylvania - Cement
Lehigh Cement Company LLC - Evansville Plant



On October 10, 2014, a 66-year-old contract truck driver with approximately 11 years of experience was killed at a cement operation. The driver was inside a loading rack closing the hatch on top of a bulk tanker truck. When the victim raised the rack to access the hatch, he fell between the rack and rounded side of the truck and then fell to the ground.

Fatality #21 - November 18, 2014
Falling Material - Texas - Alumina
Alcoa World Alumina LLC - Bayer Alumina Plant



On November 18, 2014, a 42-year-old contract supervisor with 19½ years of experience was killed at an alumina operation. A crane was lifting a 2,500 pound door to be installed on a filtrate tank. The welded lifting eye on the door broke loose and the door fell, pinning the victim on the concrete floor.

INVESTIGATION NOT COMPLETED

Fatality #22 - November 25, 2014
Powered Haulage - Pennsylvania - Crushed, Broken Sandstone
Edwards Sand & Stone - South Sterling Quarry



On November 25, 2014, a 67-year-old truck driver with 10½ years of experience was killed at a sandstone mine. The victim backed a haul truck to the edge of the overburden dumpsite and started to raise the truck's bed to dump a load of material. The bank failed, causing the truck to overturn and fall 30 feet below. The victim died in route to the hospital.

INVESTIGATION NOT COMPLETED

Fatality #23 - December 1, 2014
Powered Haulage - Ohio - Crushed, Broken Limestone
MGQ Aggregates Inc. - Millersville Quarry



On December 1, 2014, a 46-year-old contract truck driver with 26 years of experience was killed at a limestone mine. The articulating haul truck he was operating traveled over a roadway berm and went into a large pond. Dive teams extricated the victim from the truck.

INVESTIGATION NOT COMPLETED

Fatality #24 - December 29, 2014
Powered Haulage - Texas - Common Clays NEC
Zeotech Corporation - Tilden Plant



On December 29, 2014, a 21-year-old warehouse bagger with 1 week of experience was killed at a clay mine. The victim was operating a forklift, hauling a bag of dust, when the forklift overturned.

INVESTIGATION NOT COMPLETED

Fatality #25 - November 10, 2014
(Victim died January 17, 2015)
Falling Material - Virginia - Crushed, Broken Granite
R&S Stone, Inc. - R&S Stone, Inc.



On November 10, 2014, a 45-year old crusher operator with 3 years of experience was seriously injured at a granite mine. The miner was using a torch to cut a drill bit that was wedged in a jaw crusher when the bit freed and struck him. The victim was hospitalized and died on January 17, 2015, as a result of his injuries.

INVESTIGATION NOT COMPLETED

FATALS
CY 2015 Through
January 29

Fatality #1 - January 8, 2015
Falling Material - California - Construction Sand and Gravel
MDU Resources Group Inc. - Knife River Construction Vernalis Plant



On January 8, 2015, a 63-year old sales manager with 11 years of experience was killed at a sand and gravel mine. He was installing new screen panels in the B tower screen. The feeder box pivoted, pinning him between the box and the rear support beam of the screen deck.

INVESTIGATION NOT COMPLETED

Fatality #2 - January 11, 2015
Hoisting - Nevada - Gold Ore
Newmont Mining Corp - Newmont USA Limited



On January 11, 2015, a 53-year old contract shaft miner with 35 years of experience was killed at an underground gold mine. The victim was positioned on a work platform on top of a skip traveling up the ventilation shaft. He struck a steel cross member on a beam in the shaft.

INVESTIGATION NOT COMPLETED

Fatality #3 - January 21, 2015
Fall of Roof - Missouri - Lead-Zinc Ore
The Doe Run Company - Fletcher Mine and Mill



On January 12, 2015, a 54-year old miner (ground support) with 4 years of experience was killed at an underground lead mine. The victim was operating a mechanical scaler in an intersection when a roof fall (30 feet long x 15 feet wide x 6 feet high) occurred, covering the machine.

INVESTIGATION NOT COMPLETED

Fatality #4 - January 26, 2015
Machinery - Florida - Phosphate Rock
PCS Phosphate-White Springs - Swift Creek Mine



A 57 year old miner was operating an excavator, cleaning a canal, when the excavator tipped on its side and went in the water.

INVESTIGATION NOT COMPLETED

Root Causes (From Completed Investigations)

- **Failure to**
 - **Provide Training, including Task Training**
 - **Conduct Examinations**
 - **Deenergize Power and Lock Out/Tag Out**
 - **Conduct Pre-operational Checks**
 - **Maintain Mobile Equipment**
 - **Provide/Wear Personal Protective Equipment**

Best Practices

- Train all persons, including task training, to recognize all potential hazardous conditions and to understand safe job procedures for elimination of the hazards before beginning work
- Examine work areas to identify all possible hazards and eliminate them before performing work
- Do not perform work until the power is off, locked, and tagged, and machinery components are blocked against motion.
- Conduct pre-operational checks to identify any defects that may affect the safe operation of equipment
- Maintain mobile equipment
- Always wear a seat belt when operating mobile equipment
- Clear and remove all persons from the blast area unless suitable blasting shelters are provided to protect persons from flyrock
- Ensure all active working areas are ventilated prior to allowing miners to work in those areas
- Wear fall protection where there is a danger of falling
- Always provide and maintain guarding sufficient to prevent contact with moving machine parts