

Joseph A. Holmes Safety Association • Mine Safety and Health Administration

JAHSA

August/September/October/November 2010 Issue



Jimmy
Shumate

Retiring after 30 years

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The Mine Safety and Health Administration and Joseph A. Holmes Safety Association Bulletin contains safety articles on a variety of subjects: fatal accident abstracts, studies, posters, and other health and safety-related topics. This information is provided free of charge and is designed to assist in presentations to groups of mine and plant workers during on-the-job safety meetings. For more information, visit the MSHA home page at www.msha.gov

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Tram Picture Gallery 2010

With nearly 550 attendees, over 75 different presentations, and 60 exhibitors TRAM was a great success. Kentucky Coal Academy provided decorative bottles of water as well as the stress release chunks of coal to the first 500 attendees to register. Assistant Secretary Joe Main gave the keynote address and took time to answer questions. Jimmy Shumate presented the grand prize of Training Materials Competition to LaFarge North America for their "Safety Glasses Save Lives" entry.



Events at TRAM (continued)



MSHA display



Jimmy Shumate (center) with Janet Bertinuson and Jeff Duncan



Participants looking at TRAM material



IUOE Display



Captivated audience at TRAM presentation



Demo of water sprayer

Training Materials Competition Winners 2010

with Jeff Duncan and Joe Main



Grand Prize winner: LaFarge North America INC for "Safety Glasses Save Lives"



Printed Material Public: New Jersey DOL for "Training Materials on a Budget"



Mixed Interactive Media Public: IECC Coal Mining Tech for "Mobile Maintenance and Operator Safety"



CDs/DVDs Industry: Lafarge North America INC for "Safety Glasses Save Lives"



Mixed Media Industry: Caterpillar Inc. for "Training Videos"



CDs/DVDs Public: Sandersville Technical College for "Lock Out, Tag Out"

NOT PICTURED: Mixed Media Public: WVU Extension Service for "Diesel Operating Training"

The Primero Mine Explosion

Primero, Colorado
January 31, 1910



An explosion occurred in the Willow Grove No. 10 mine of the Hanna Coal Company of Ohio, Neffs, Richland Township, Delmont County, Ohio, at about 11:05 a.m., March 10, 1940. Seventy-two men were killed as a result of this explosion, of which number 66 were killed outright by burns and violence, three were killed by burns and after-damp, two were asphyxiated, and one died six days later from the effects of carbon monoxide poisoning. One additional man was severely burned and injured by the explosion and two others were severely burned by a roof fall while engaged in recovery work eleven days after the explosion. Twenty-two others were overcome by after-damp, rescued, taken to the surface and revived. Seventy-nine uninjured men were temporarily trapped and five hours later led to the surface through the air shaft by a rescue party. Two uninjured men escaped to the outside unaided. A total of 170 men were in the mine at the time of the explosion. The explosion did not occur throughout the mine but traversed the entire 22 south gate section and a short distance inby and outby 22 south on the main west haulage entries. The investigators disclosed two possible points of origin; however, after a careful study, it was believed the explosion was caused by the firing of a shot charged with black (pellet) powder near the face of 8 west off 22 south entry.

Nature of Disaster

Dust explosion with possibility that gas may also have been involved.

Time of Explosion

About 11:15 a.m., March 16, 1940, with most or all of the day shift of about 190 men or more in the mine.



Showing typical roof falls along entries following explosion.

Number of men killed

About 72 men were killed. However, there is a possibility that it may be a few above or below this number because no definite checking in and out system was in operation. Of those killed, all but three were killed in the explosion area.

Number of Men Escaped

Ninety men reached by an exploration party that entered the mine after the explosion occurred and to the outside by way of the air shaft about five hours after the explosion. None of these men were injured.

Number of men rescued

Twenty-four men were rescued. One of these received burns and other injuries. The other 23 men collapsed along the main haulage road while attempting to reach the outside. They were taken to the hospital and revived. No oxygen breathing apparatus was actively used in rescuing those who escaped or were taken to the hospital.

Kind of Mine

The mine is a drift mine working the Pittsburgh No. 8 coal bed which averages 60 inches in thickness. The bed is generally level with local dips and raises. The coal is high-volatile bituminous and is fairly friable. The mine is opened by a main drift and two air shafts. One of these air shafts at which the present ventilating fan is located was opened and put in operation in January 1940. It is located about three miles from the main draft and is about 135 feet deep.

Method of Mining

The room and pillar method of mining is used, all of the work being carried on in the entries leading off the main west entries, face entries being turned off of the main west entries about every 2,000 feet with room entries (both right and left) about every 600 feet. Rooms are driven on about 34-foot centers on a 60 degree angle, 22 feet wide with a 10-foot pillar. It is believed that no pillars are drawn on the present methods of mining.



Showing Shot firing cable stretched out from a hole.

Number of Employees

About 600 men in three shifts are employed underground. The average production is about 4,000 tons a day.

Gassy or Nongassy

The mine is rated nongassy by the Ohio Division of Mines.



Showing roof fall after explosion.

Lighting

All underground employees used Edison electric cap lamps for illumination. Flame safety lamps are carried by section foremen for inspection purposes.

Coal Dust

The coal dust is naturally explosive. Pending the examples of samples the content of combustible matter is unknown. Much fine coal dust was observed at various places in the affected area.

Coal Cutting

The coal is undercut and sheared by Oldroyd mining machines in some sections of the mine. In other sections short wall mining machines are used. All of the mining machines are of the nonpermissible type.

Haulage

Haulage is done by trolley-pole and cable reel locomotives operating on 250 volts direct current.



Black (pellet) powder storage box, found following explosion with front side blown off.

Explosives

Coal and rock is blasted with pellet powder fired by electrical squibs. Blasting is done by the mining machine operators who drill and charge the holes and serve as shot fires. Shooting is done at any time during the shift.



Outline of rib hole after shooting on left rib at face of 8 west, 22 south. This shot suspected of causing explosion.

Explosion at Layland No. 3 Mine

New River and Pocahontas Consolidated
Coal Company located at Layland,
Fayette County, WV, March 2, 1915

In 1915 the Layland Mines, located in Fayette County, West Virginia, became the scene of one of the biggest mine disasters in U.S. history.



Car Eight Enroute to Layland

At 8:30 a.m. Tuesday morning, March 2, 1915, an explosion occurred at the Layland No. 3 Mine, Layland, West Virginia, resulting in the death of 114 men inside the mine, and one man, the store porter, on the outside. Fifty-four men afterward escaped alive from the mine, seven coming out four to five hours following the explosion. Five more escaped unassisted at 8 a.m. on the morning of March 6th; and the remaining 42 survivors were rescued an hour later from behind their barricades three miles underground.



Drift Mouth No. 3 Mine, March 3, 1915

Rescue parties were led by the State Mine Inspectors and employees of the Bureau of Mines. This made a total of 168 men inside the mine when the explosion occurred, 114 of whom were killed, and 54 escaped alive. Abe Cooper, the store porter, was walking in front of and 100 feet from the drift mouth when the explosive wave burst forth, hurling him against a post and killing him instantly.

The explosive wave came from the drift mouth of No. 3 Mine with great force, shaking the buildings for a radius of one-half mile and breaking scores of windows in the immediate vicinity. The masonry arch over the drift mouth was destroyed and inby cross timbers displaced, resulting in a heavy fall which almost blocked the drift mouth, and the removal of which required four days.



Crowd near morgue, March 3, 1915



Arthur Caldwell, one of the 42 men rescued from 10th left, after 4 days' imprisonment.

THE RESCUE OF THE 42 ENTOMBED MINERS

Inspectors Cobb and Holliday with St. Clair, Workman, Clapperton and two others were the first rescue party to enter the mine at about 6:25 a.m. followed very shortly by German's apparatus crew at 8:30 a.m., Chief Henry and General Superintendent Bertolet at 8:40 a.m., then by a larger party under Daniel Davis and then finally by Mason and Thirtle wearing apparatus.

The fan being stopped it was not known to these rescuers what they would encounter beyond the 9th left, although the escape of five men that morning from 9th left indicated that the air was good as far inby as 9th Left.

Holiday's party of seven men (not wearing apparatus) proceeded inby as far as 9th left, where there was a message written on a brattice board in Italian, as follows: - "4-1915, 9th left, 5 men in here 9th left. Want help. Help." (This was the message of Salvatori Morici, who had led out the four other men that morning.)

Holiday's party turned into 9th left and advanced inby on that entry 1000 feet, as far as room 16. No sign of any live men was seen and somebody then suggested that they should go back and go to 10th left, which was done.

German's apparatus party, meanwhile, had passed 9th left (while Holiday's party was in

there), and continued rapidly inby to 10th left. Here at the switch point Klier pointed out to German a roll of cartridge paper placed in an upright position against the rail.

German picked this up and it proved to be a message written with a lamp wick as follows: "42 men alive in 10 left, March 4, 1915 at 4:30 p.m." German's party at once turned into 10 left and 150 feet inside the entry found a substantial stopping built of gob material and coal dust across the entry. German took a piece of slate and signaled on the rail by taping rapidly at short intervals and Klier thought he heard a response. The canary showed no sign of distress and the safety lamps were all burning normally, so German gave orders to tear down this brattice.

The crew responded heartily and soon an opening was made in the top of the stopping large enough to crawl through. Meanwhile, German dispatched Klier to the outside with a message that 42 living men were reported in 10th left, which this message was to be delivered to J.W. Paul and Chief Henry.



Fan house No. 3 Mine, March 9, 1925

However, as Klier was hastening outby along No. 3 Main entry, he was met by Holiday and his party coming out of 9th left, so he gave his message to Holiday, who ordered him to return with their party to 10th left.

Accordingly, Klier joined Holiday's party and they all hastened to 10th left where they found German's party had affected an opening through the first gob stopping and had encountered 200 feet further inby a second substantially built gob stopping.

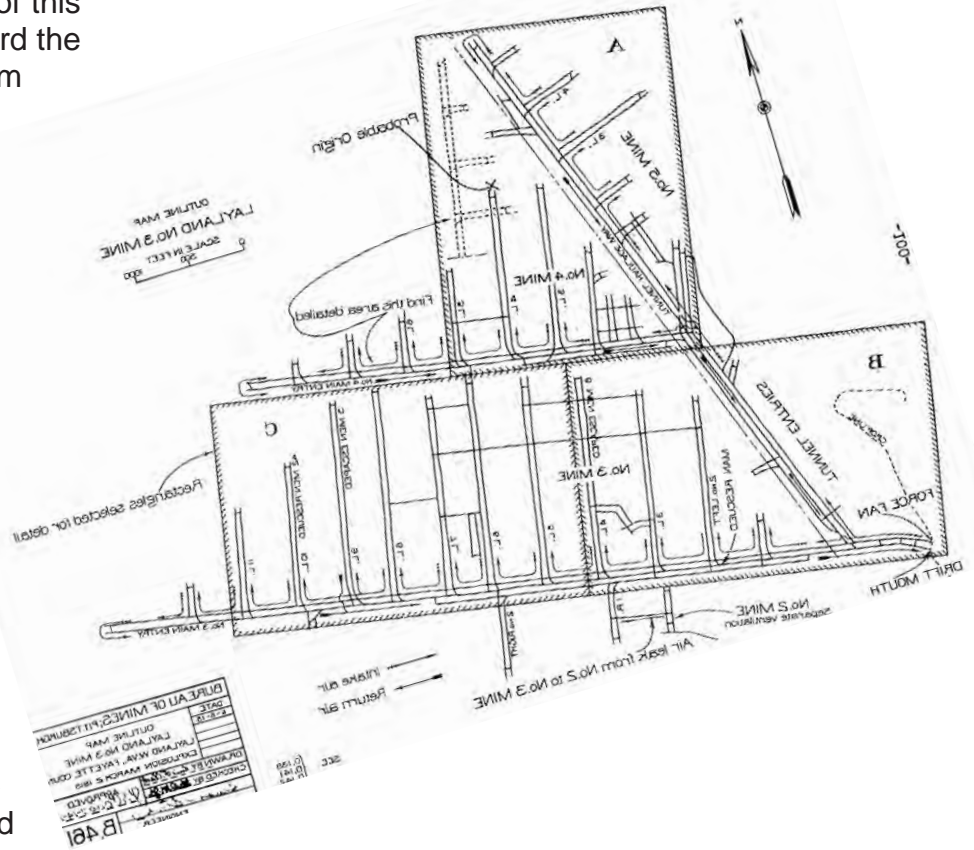
Both parties joined in the tearing down of this stopping and then the miners inside heard the rescuers and there was a pandemonium of sounds behind the stopping.

Holiday then dispatched St. Clair as a messenger to carry the news of live men to Chief Henry, Bertolet and Paul, and St. Clair immediately started outby on No. 3 Main entry.

When a large enough hole was finally made through the upper part of the second stopping, inspectors Holiday and Cobb immediately crawled through and found the entombed miners inside. German and his crew then enlarged the opening, so that they could pass through wearing apparatus, and a joyous scene ensued, the rescued miners hugging and kissing their rescuers.

Meanwhile, Mason and Thirtle had advanced inby No. 3 Main entry, and at 6th left they met Chief Henry and Bertolet waiting for news, as they had not yet heard from the advance parties. Proceeding rapidly inby from this point, Mason and Thirtle passed 8th left and encountered a wrecked motor trip, which partially blocked the entry. While crawling around this wrecked trip, a safety lamp was seen coming outby and St. Clair approached and advised Mason and Thirtle that there were 42 men alive behind a barricade in 10th left where Holiday, German and their parties were working with them, and that he was going outside to notify Henry and get help.

Mason advised St. Clair that he would meet Henry and Bertolet at the 6th left where they were waiting for news. St. Clair proceeded outby and met Henry and Bertolet at the 6th left and gave them Holiday's message. Henry and Bertolet hastened outside immediately and gave the news to get stretcher parties and a temporary hospital ready at once. They ordered St. Clair to 10th left to assist Holiday, which he did.



Mason and Thirtle had meanwhile reached 10th left and assisted German and Holiday in getting all the rescued miners seated as quietly as possible along the left rib and counted them off. After all 42 had been counted off and seated for a time so that they felt strong enough for the long trip to the outside (6000 feet), all were ordered to rise and grasp hands. Then the entire party moved slowly outby, the 14 rescuers walking alongside the 42 rescued men at regular intervals, so as to give sufficient light with their flash lights and safety lamps.

(Note: this entire rescue party consisted of 15 men: German, Klier, Mason, Thirtle, Toshie, Payne, Christian and Kovacs – wearing apparatus – and Holiday, Cobb, Workman, Clapperton, St. Clair and two others – without apparatus.)

The air seemed good, the canary thus far not showing distress, and the long procession moved slowly out of the No. 3 Main entry, stopping at short intervals to afford rest for the weakened miners.

Survivor's Perspective: Statement of Hugh G. Momillan

I am a day man in Layland No. 3 mine and went to work at 7:00 a.m. on Tuesday morning, March 2nd in 10th left entry to put up some trolley wire. I got some holes drilled for expansion bolts, when suddenly I heard a suction and I knew there was an explosion coming. I fell flat on my face and the force of the wind went over me, then getting up I ran along the room necks and called to all the men to come out that there was an explosion in No. 5 Mine, I thought. Some of the men would not believe me but went out the main entry to see and walked outby on No. 3 main entry until we came to a wrecked motor trip near the 8th left, and found the smoke dense and hot at that point, and we knew we could not get out." (The wrecking of this trip at this point apparently blocked the entry so effectually, that the violence and afterdamp were thus checked off from 9th and 10th lefts.)

As we returned towards 9th left we met some men coming out of 9th left and took them back with us to 10th left. Two men, however, would not walk back with us, and we saw their dead bodies near 8th left, as we came out Saturday morning with the rescue party.

In 10th left the air was good and we decided to get everybody into 10th left, so I went to 11th left for some brattice cloth and got the men from there to come back with me, also the men from the main entries.

First we took off the brattice door in the slant, which had not been displaced by the explosion, in order to short-circuit the air current. We counted our party and found there were 42 men. Then we retreated about 150 feet into the 10th left and built a permanent gob stopping, about 8 feet thick at the bottom and also built one across the air course. Two hundred

feet further inby, we built another dirt stopping and also another across the air course. Thus, we were doubly protected by two tight brattices and the air was also short-circuited outside at the entry mouth; so that even if the fan had pushed the "damp" back into our diction none could have come through our stoppings. We had plenty of men to help and all these stoppings were completed early the first day.

After another day had passed some of the men began to get restless. We thought that probably heavy falls had kept the rescue parties from getting back to us. We had trouble in keeping the foreigners from making lights, as we realized the dangers from gas. We did not permit over one light to be going at a time and that was kept down on the bottom. We had plenty of air space back of us in the entry and the air kept good, and we had plenty of water, with two barrels full of water inside the brattice. The food supply, however, soon began to get low, as there were 42 men in our party and the contents of all the dinner buckets were eaten the first few days.

Finally, the Italians got very restless and although the 14 Americans in our party thought the air would be bad outside the brattices, yet the Italians were so determined to start outside, that we wrote a note for one fellow, Angelo, on a long piece of cartridge paper with the lamp wick as follows: 42 men alive in 10th left, March 4th, 1915 at 4:30 pm. He gave him this note and told him to leave it out at the switch on the main entry. Then we made holes in the two brattices large enough for him to crawl out with a light but told him to guide himself out by the rail and trolley wire.

Pretty soon we heard a call for help out from the brattice and two men went out with a light and found Angelo unable to walk, as the "afterdamp" had been too much for him. So we pulled Angelo in through the brattices as quickly as possible and closed them tight again. After that (Thursday evening) we had no more trouble with the Italians, but we all began to feel pretty bad and held some prayer meetings and wrote letters for our wives and families.

We were getting mighty hungry and weak and had about decided that on Saturday morning, March 7th, we would make a try to escape, as we would still be strong enough and have enough lights remaining. We could not think what was keeping the rescue parties away so long. Days seemed like ages back in the darkness. Finally, we heard the rescue party working on our inside brattice, Saturday morning, March 6th, and they came in and helped us all outside.

Lessons That Were Learned at the Time

- ✓ The opening and closing of ventilating doors should be rigidly systematized in all mines.
- ✓ Fire bosses should be employed at all mines.
- ✓ No mine should be considered non-gaseous, for the reason that dangerous accumulations of methane have never been discovered therein. Layland No 3. Mine was considered one of the safest mines in West Virginia, with regards to gas. It is located high up in the mountains above water level, and no gas explosions have ever occurred in adjacent mines.
- ✓ Coal dust accumulates must be removed or rendered inert in all mines to ensure safety from an explosion.
- ✓ In the recovery operations following an explosion the hope of finding live men should never be dismissed until all the workings have been fully explored.
- ✓ The efficient work of the 47 miners, who saved their own lives by their prompt and effective building of brattices, is an object lesson to all engaged in the mining industry.

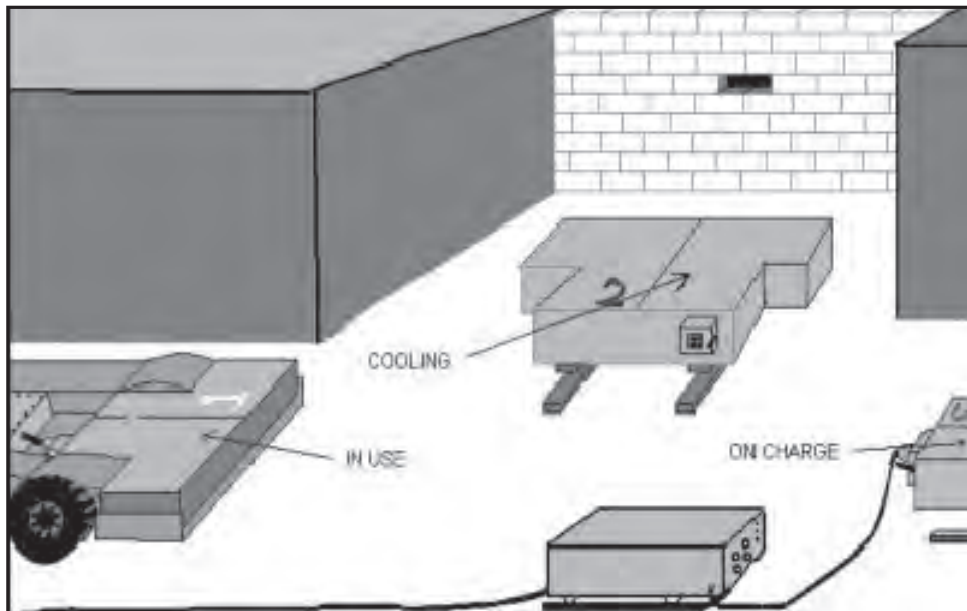
Safety Ideas

Battery Safety

When multiple batteries are utilized in an operation, marking them for rotational purposes can reduce the potential for battery fires and increase battery life. Numerous battery fires have occurred at the charging station or while the batteries are being used because of poor rotation procedures.

The battery industry recommends a general procedure of charging and cooling batteries before use.

A simple system for a 3-shift operation where three batteries are used, would be to use the battery on the first shift marked "1" while charging the battery from the third shift marked "3" and allowing the second shift battery "2" to cool. When the second shift comes on, the "1" battery goes on charge, the "3" battery cools, and the "2" battery is used to power the machine. The same rotational scheme would be used for the third shift, and continued.



A different system could be developed for operations that use less than 3 batteries or for longer working shifts. If batteries are not cooled prior to using, a greater potential for fire exists and the battery life is reduced. Therefore, battery rotation not only provides a safer work environment, it saves money too.

Proper rotation can reduce accidents and injuries.

Safety Ideas

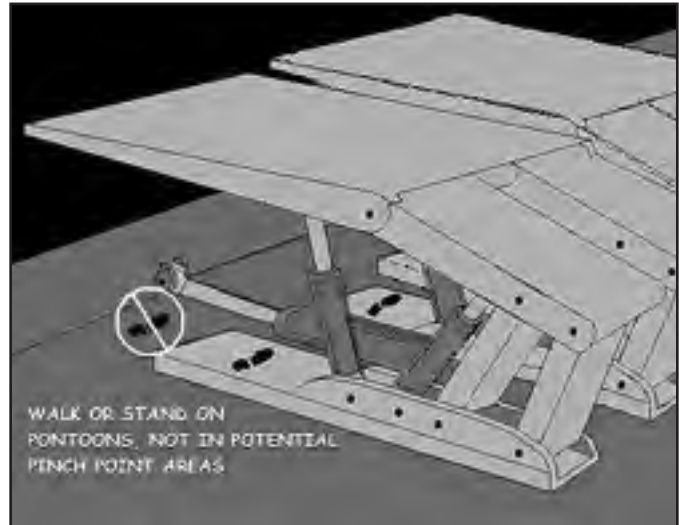
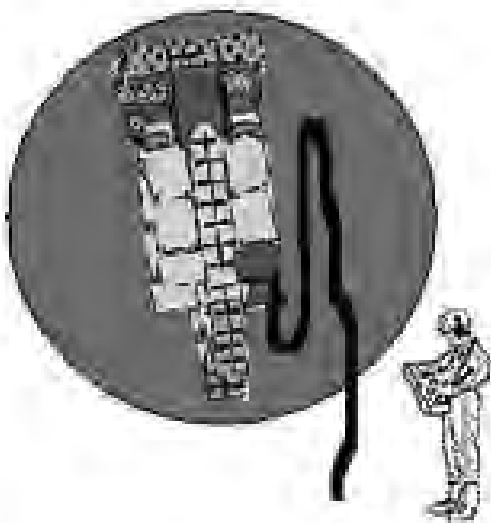
Check Curtain Hazards

Category: Haulage and Transportation
Mine Type: Underground Coal

While talking with coworkers a miner was positioned between the rear of a manbus and the corner of a coal pillar.

There was approximately two feet of clearance between the manbus and the rib. On the other side of a check curtain located immediately in front of the manbus a scoop operator, while sounding his warning bell, was tramping slowly and maneuvering the scoop from left-to-right so it would not tear down the curtain. The scoop operator, who could not see the manbus, felt a “bump” when his deck cleared the curtain.

The “bump” occurred when the corner of his bucket struck the front corner of the manbus. The manbus rolled back approximately two feet, fatally crushing the miner between the manbus and the coal rib.



MSHA recommends the following to eliminate similar mobile equipment accidents.

- When possible, equipment should be parked a sufficient distance away from any curtains to allow operations to continue on the other side of a curtain without concern for contact or collision with any unseen items.
- All machinery and vehicles should be backed up and located flush against the rib, walls and other similar dead-end type areas. This automatically eliminates pinch points and any access for workers to get behind equipment.
- A stop block or derail can be installed to prevent equipment from inadvertently rolling in any direction.
- No one at any time should place themselves between “PINCH POINTS.” The use of see-through curtains should be used when at all feasible.

Safety Ideas

Know Your Ropes

Category: Hoisting and Elevators
Mine Type: All Underground Mines



A wire rope may look good on the outside but could be hiding corrosion on the inside. Internal corrosion of a wire rope is a dangerous condition. It diminishes the rope strength and leads to premature failure. Mine operators often use rock salt and calcium chloride to remove ice buildup from the slope. When these salts dissolve, the brine created can penetrate the rope and accelerate corrosion.

Consider the following to minimize wire rope corrosion and increase the life of your ropes:

- ✓ Use an ice melter such as Calcium Magnesium Acetate (CMA) or Sodium Acetate, instead of rock salt or calcium chloride, to minimize the corrosive impact of deicing.
- ✓ Apply a wire rope lubricant with a corrosion inhibitor to protect your slope rope from environmental attack.
- ✓ Drain water accumulations in the slope so the rope is not dragged through it.
- ✓ Enhance your wire rope inspections with electromagnetic nondestructive testing (NDT). NDT examines the entire rope whereas the caliper method only tests specific points.

Rusty Ropes can be the PITS so...

“Know Your Ropes!”

Miner's Tips

Blocking Raised Equipment

Category: Maintenance, Mobile Equipment, and Haulage/ Transportation
Mine Type: All

Best Practices to follow when blocking raised equipment:



- ✓ Ensure that there is sufficient space around the equipment to enable work to be performed safely and out of travelways.
 - ✓ Prep the area under the equipment to ensure that the bottom layer of the blocks or jack stand will lie within a flat and level area. Use bearing plates to increase the contact area with the ground under the blocks or jack stand if the ground's ability to support the load is questionable.
 - ✓ Never use a wooden block that is significantly lighter than the others being used.
 - ✓ Never use blocks exhibiting rot, splits, twists or bows.
 - ✓ Ensure adequate contact area with equipment components being supported to avoid crushing the blocks and to increase stability.
 - ✓ Observe blocking and jack stands during loading and ensure they remain solid without any tilting or sliding.
- ✓ Ensure that wooden blocks stacked in a cribbing fashion have their middle portions supported by lower layers to prevent block bending.
 - ✓ Always treat the system as unblocked until the blocks or jack stands are fully loaded and equipment stability has been verified.
 - ✓ Remember that metal to metal contact may slide much easier than wood or other materials against metal. This is a strong reason to ensure everything remains level and evenly loaded. Also, remove any grease, etc. from the machine area that will contact the blocking.

Miner's Tips

Electrical Extension Cords

Category: Electrical
Mine Type: All Mines

Electrical extension cords can be a source of fires and electrical shock when misused at the mine or at home.



- ✓ Use extension cords **only** when necessary and **only** on a temporary basis.
- ✓ Replace cracked or worn extension cords.
- ✓ Insert cord plugs fully so that no part of the prongs are exposed.
- ✓ When disconnecting cords, **pull the plug, not the cord.**
- ✓ Use only three-wire extension cords for tools with three-prong plugs. Never remove the third (round or Ushaped) prong. It is a safety feature designed to reduce the risk of shock or electrocution.
- ✓ If the body of the cord or the plug feels hot or if there is a softening of the plastic, it is a warning that the plug wires are failing. Do not use the extension cord.
- ✓ Do not use an extension cord while it is coiled or looped, and never cover any part of an extension cord with rugs while the cord is in use.
- ✓ Using nails or staples to attach extension cords to a wall or ceiling could damage the cord and present a shock or fire hazard.
- ✓ Don't plug in tools that exceed the rating of the cord.
- ✓ When using outdoor tools and appliances, only use extension cords labeled for outdoor use.
- ✓ Avoid plugging multiple extension cords together. This can lead to overheating.

Miner's Tips

Scooping in the Right Direction

Category: General Safety, Haulage and Transportation, and Material Handling

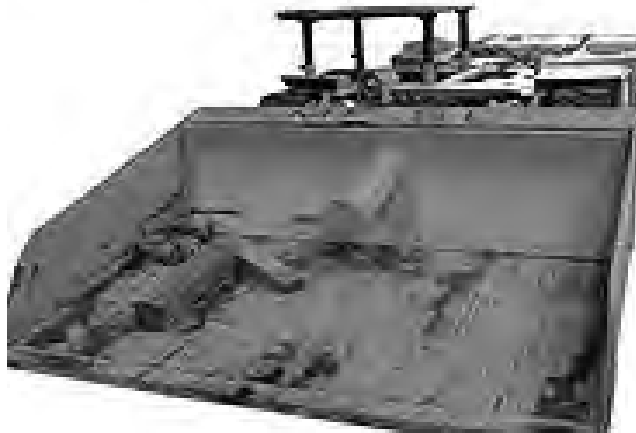
Mine Type: All Underground Mines



The mining industry has experienced serious injuries and fatalities involving scoops, duckbills, shield haulers, etc. By traveling in the opposite direction from the loaded end some of these accidents can be prevented.

To improve operator visibility, if possible, travel in the direction of the battery or motor end. If this is done when the bucket is loaded, no load related visibility issue is created because the motor or battery end is always in the direction of travel. If material falls off it won't impede travel or be run over.

Protect yourself and other miners by recognizing and eliminating potential hazards.



Winter Alert 2010

“Beat Winter Hazards, Win with Winter Alert”



“Conditions at underground and surface coal mines can change dramatically during the winter months,” said Joseph A. Main, Assistant Secretary of Labor for Mine Safety and Health. “We must be ever mindful of the seasonal changes that can affect our work environments.”

Low barometric pressures and low humidity, coupled with seasonal drying of many areas in underground coal mines, have contributed to the larger number of mine explosions during winter months. Other hazards include limited visibility, icy haulage roads and walkways, and the freezing and thawing effect on highwalls at surface mines.

MSHA warns miners and operators at underground coal mines to follow safety checklists by ensuring adequate ventilation, applying liberal amounts of rock dust, conducting frequent and thorough examinations, and being familiar with emergency procedures to prevent coal mine ignitions and explosions.

Miners also are urged to be vigilant about keeping escapeways clear of impediments. Miners and operators of surface mines should examine the stability of highwalls, remove snow and ice from walkways, de-ice any equipment, and apply salt and sand liberally where needed.

During their normal inspection duties, MSHA inspectors will distribute posters, hardhat stickers, a “practice ventilation awareness” pocket card and a “basic ventilation” compact disc PowerPoint presentation that can be shown and discussed during meetings with underground coal miners.

Coal Miner's Ventilation Checklist

Always conduct methane checks:

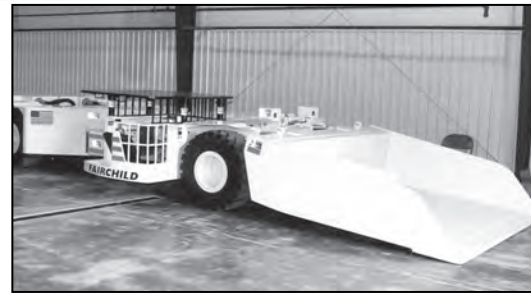
- before equipment is energized at the face
- at least every 20 minutes (or more often if required by the mine's ventilation plan)
- before equipment is trammed in by the last open crosscut immediately
- before welding, cutting, or soldering
- continuously during welding, cutting, or soldering immediately before and after blasting
- Always make sure ALL gas detectors are calibrated and operating properly.
- Always keep line brattice or ventilation tubing within 10 feet of the face (or other distance required in your mine's ventilation plan).

Always report:

- ventilation control leakage
- changes in air velocity
- methane gas feeders
- ventilation tubing leaks
- smoke and other strange odors
- Always report and/or repair damage to ventilation controls (i.e. stoppings, line brattice, check curtains, regulators).
- Always make sure water sprays and scrubber systems are properly operated and maintained in accordance with manufacturers' recommendations and your mine's ventilation plan.
- Never change or alter any ventilation controls without proper authorization.
- Never operate an auxiliary fan if the main fan is down.
- Never use an auxiliary fan to remove methane – use line brattice.

Watch Out

for Shuttle Cars and Scoops When Working Underground



FACT: Nearly 800 miners have been injured in shuttle car and scoop accidents in the last ten years.

FACT: Sixteen miners have been killed in crushing accidents involving shuttle cars and scoops in the last ten years.

FACT: Many miners get seriously hurt, maimed or killed in and near shuttle cars and scoops.

FACT: Dozens of shuttle car and scoop operators are severely injured due to failure to keep arms and legs inside the vehicle. Amputations occur much too often.

FACT: Shuttle car and scoop operators cannot always see miners walking nearby.

FACT: These accidents can be prevented!

Solution #1 Always know the location of the shuttle car and scoops operating near you. Pay attention to your surroundings.

Solution #2 Shuttle car and scoop drivers should always try to see the entire travelway in which they are driving.

Solution #3 Shuttle car and scoop drivers should always sound the audible horn before passing through a check curtain.

Solution #4 Shuttle car and scoop drivers should always keep their hands, arms and legs inside the vehicle at all times.

Solution #5 Miners should always wear reflective clothing so that they can be clearly seen by the shuttle car and scoop drivers.

Solution #6 Miners should always stay clear of moving shuttle cars and scoops. Always walk behind moving vehicles. Never walk in front of a shuttle car or scoop.



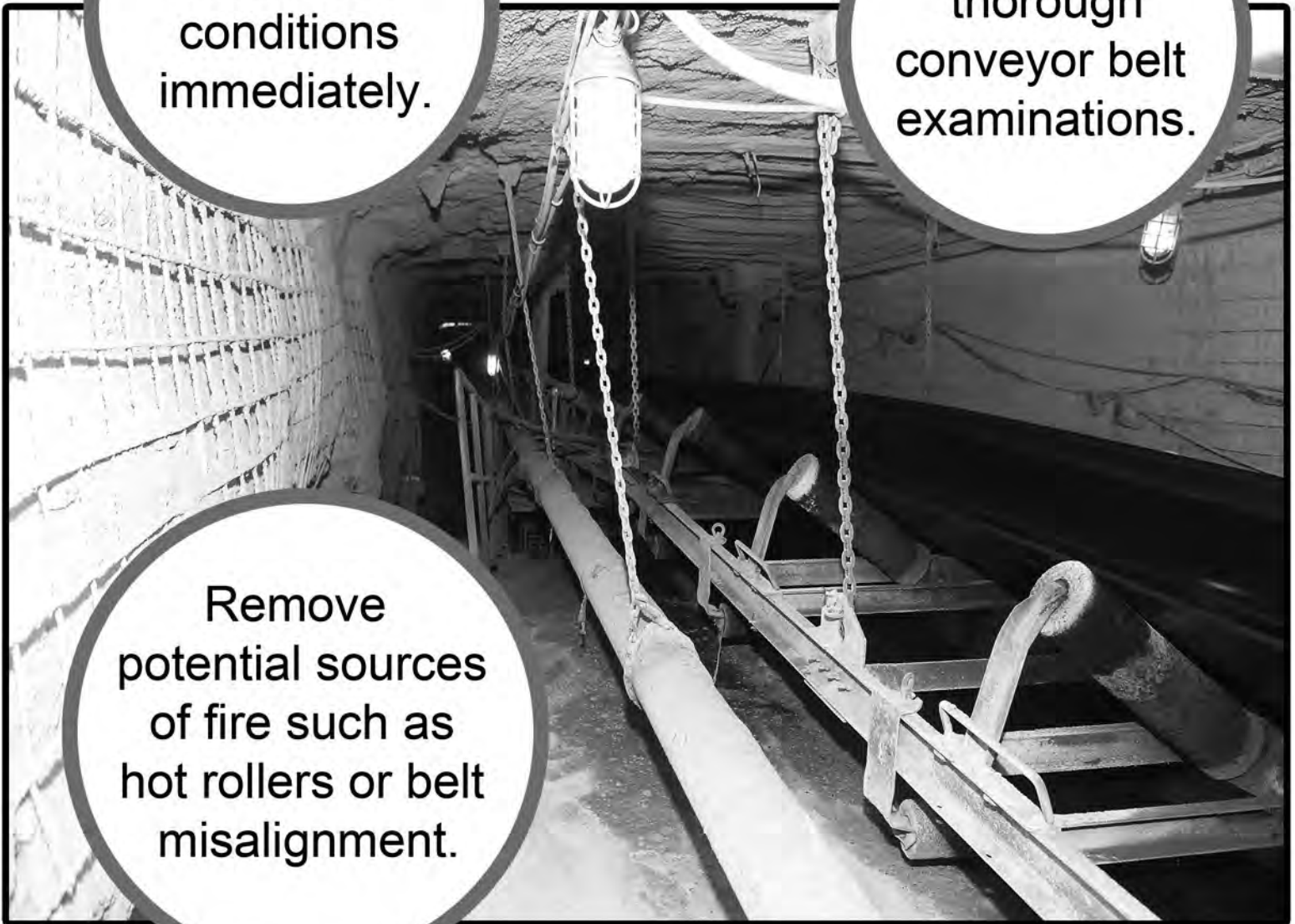
When Underground... Look Around!

Conveyor Belt Fire Prevention Best Practices

Correct all hazardous conditions immediately.

Conduct thorough conveyor belt examinations.

Remove potential sources of fire such as hot rollers or belt misalignment.



For Your Safety





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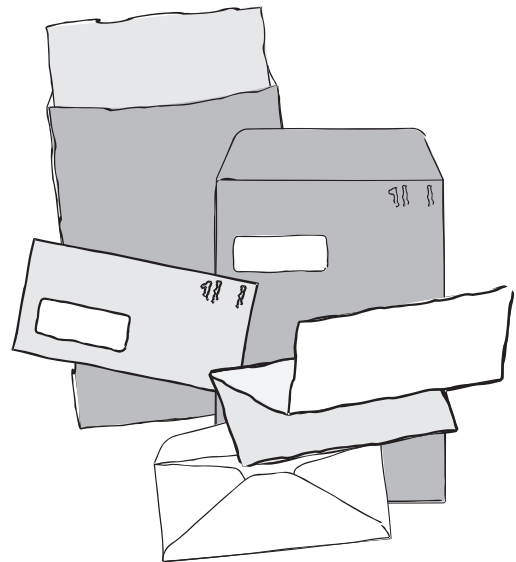
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