

MARCH 1982



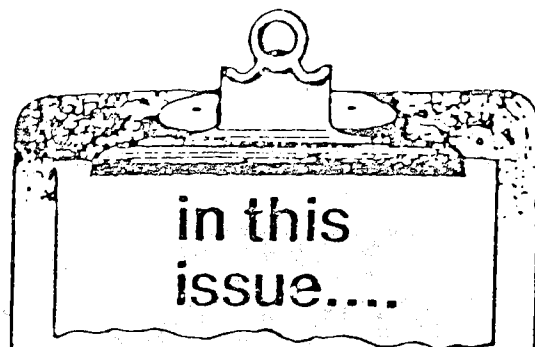
# BULLETIN



**"SAFETY"**  
It's Up to You,  
In '82



# HOLMES SAFETY ASSOCIATION



March 1982

1. Safety Topic, "'Safety' It's up to You in '82"
2. Safety Topic, "Welcome New Members"
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March 1982

## HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

# "SAFETY" It's Up to You, In '82



The ability to look behind us, study the causes, and see the severity of some of the mine accidents and disasters that occurred during 1981, should only intensify our resolution to take a more active part in their elimination. Much of this can be accomplished through your safety chapters and district councils of the Holmes Safety Association. We are the nucleus and coordinating unit for mine safety in all mineral extractive areas. Have we done enough? The record implies that we haven't.

We can improve by increasing our membership and increasing the active participation of those who attend. It was once said, "the more expensive a person's knowledge of what has to be done, the greater will be their power of knowing what to do." Everyone connected with the mining industry has "something" to contribute toward mine safety, whether they represent management, labor, inspection services or other allied interests.

We now have two beginnings, our year of '82 and our new slate of elected officers. These officers must have our active support. We are in a favorable position to succeed. We can look behind for knowledge, then look ahead and apply it in our concerted efforts to eliminate mine injuries.

We could be on the brink of a new golden age of safety for the mineral extractive industries - it depends on you and me.

March 1982



## HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC



October 1981

Texasgulf Metals Company  
Texasgulf Metals-Gold  
Victor, Colorado

The New River Company  
Siltix Mine  
Mount Hope, West Virginia

The New River Company  
Meadow Creek Prep Plant  
Meadow Creek, West Virginia

Beckley Lick Run Company  
Bonny Mine  
Clear Creek, West Virginia

Beckley Lick Run Company  
Bonny Prep Plant  
Clear Creek, West Virginia

The New River Company  
Skelton Mine  
Stanaford, West Virginia

Harrison Fuel Inc.  
Harrison Fuel  
Fairmont, West Virginia

Larry Terry Contractor, Inc.  
McCormick Pit No. 1  
Decatur, Alabama

Cordero Coal Company  
Cordero Mine  
Gillette, Wyoming

Wyoming Fuel Company  
Tri County Mine  
Perry, Missouri

The Kentucky Stone Company  
Flemingsburg-Limestone  
Flemingsburg, Kentucky

The Kentucky Stone Company  
Todd-Limestone  
Elkton, Kentucky

The Kentucky Stone Company  
Pulaski-Limestone  
Somerset, Kentucky

The Kentucky Stone Company  
Franklin-Limestone  
Woodburn, Kentucky

Rinker Southeastern Materials  
Rinkers Miami-Limestone  
Miami, Florida

American Mine Services, Inc.  
McLoughlin Mine-Gold  
Lower Lake, California

American Mine Services, Inc.  
American Mill-Gold  
Fairplay, Colorado

American Mine Services, Inc.  
16-1 Mine-Silver  
Silverpeak, Nevada

American Mine Services, Inc.  
Bold Mt. & Ibex Mine-Gold  
Baker, Oregon

American Mine Services, Inc.  
Lead Mine-Gold  
Lead, South Dakota



December 1981

Jacobs Creek Stone Co. Inc.  
Davidson County Quarry-  
Dimension Shale  
Denton, North Carolina

White Rock Coal Company, Inc.  
White Rock Mine  
Hurley, Virginia

Black River Lime Company  
Black River Mill-Stone/Lime  
Carntown, Kentucky

Cowin and Company  
Lick Creek Portal Pond  
Creek No. 1-Construction  
Rawl, West Virginia

Union 76  
Parachute Creek-Oil Shale  
Parachute, Colorado

State Board for Technical  
and Comprehensive Education  
S.C. MSHA Grants & Operators-  
Mica, Stone, Formulicate  
Columbia, South Carolina

Cowin and Company  
Mary Lee No. 1-Construction  
Goodsprings, Alabama

Minerals Exploration Company  
Sweetwater Project-Uranium  
Sweetwater, Wyoming

Fred D. Mitchell and Son  
Fred D. Mitchell-Sand  
Mayodan, North Carolina

Alhambra Mines  
Ruby Mine-Gold  
Forest City, California

November 1981

Sunfire Coal  
Sunfire No. 3  
Jett, Kentucky

Sunfire Coal  
Sunfire No. 4  
Jett, Kentucky

Hammer Coal Company, Inc.  
Hammer Mine  
Tannersville, Virginia

Reb Mining, Inc.  
Reb Mining  
Grundy, Virginia



PART 48 TRAINING MODULES - COAL - SURFACE  
AND UNDERGROUND



The training modules in this series were prepared\* to help instructors in the mining industry and allied educational institutions provide effective health and safety training and retraining as mandated by the Federal Mine Safety and Health Act of 1977.

Most of the modules are designed specifically for the training of either surface or underground, inexperienced or experienced coal miners. An instructor's manual is included as the first module. In addition to providing training instruction it contains: a complete list of modules in the training program, a bibliography, and a glossary. Two modules are included for the hazard training required for non miners/mine visitors, one for surface and one for underground mines. A module is also provided for health and safety training for coal preparation plant personnel.

Each module in this series is a self-contained unit that provides a sample lecture that will fulfill suggested objectives. Visual materials and handouts that go with the lecture (illustrations, self-checks, etc.) are at the end of each module and may be reproduced on a copier. Sets of 35 mm. slides and overhead transparencies of the visuals in the modules as well as applicable motion picture films are also available from MSHA (contact the Division of Audio Visual Services for information regarding the availability of visual materials).

The training modules are available in two master sets supplied as kits from which instructional material can be selected for use in each of three Part 48 training categories, "Training of New Miners," "Training of Newly Employed Experienced Miners" and "Annual Refresher Training." One master set applicable to surface coal mining consisting of 23 modules is available for purchase for \$20. The other master set applicable to underground coal mining and consisting of 27 modules is priced at \$25. The module "Coal Preparation (with Plant Tour supplement)" is included in the master surface set and is also available separately for \$1.50.

All instructional materials listed below are offered for sale only, and the prices (determined by contractual reproduction costs) are subject to change without notice. To obtain instructional materials, please submit a written request or purchase order to: Chief, Division of Audio Visual Services; Education and Training; MSHA; 4800 Forbes Avenue; Pittsburgh, PA 15213. Address inquiries to this address for information regarding availability of audiovisual materials applicable to the modules. Telephone requests for purchases will not be accepted. Also, DO NOT ENCLOSE PAYMENT WITH YOUR ORDER. You will be billed by our finance office.

To order master sets by number:	MSHA P4800 - Both Sets.....	\$42.00
	MSHA P4801 - Underground.....	\$25.00
	MSHA P4802 Surface - Includes	
	Coal Preparation.....	\$20.00
To order preparation plant module:	MSP48M0241 - Coal Preparation.....	\$1.50

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*\*This program was developed by the Mining Extension Service of West Virginia University for the Mine Safety and Health Administration under U.S. Bureau of Mines contract number J0188069.*



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## HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

### People and Machines

One of the chief differences between a person and a machine is that the machine will do what it is designed to do every time you give it the necessary stimulus, while a person may or may not. Here is an illustration of what we mean.

Recently, several men who worked for a printing establishment were unloading supplies from an automatic passenger elevator which was at the first floor level. One of the men stepped into what he thought was the elevator, but which was in fact an empty elevator shaft. He fell to his death at the basement level.

The reason the elevator wasn't there was that the men had failed to set a safety catch which would have held the elevator at the ground level. Consequently, when someone pushed the button to summon the elevator to another floor, the elevator did exactly what it was designed and built to do. It went to the other level, leaving the elevator shaft empty at the first-floor level.

In other words, the machine did what it was supposed to do. The men did not.

### He Knew -- But He Forgot

So many accidents occur to those who know how to work but in actually doing the work forget their safety training. This always proves an expensive and painful forgetting. We just cannot forget about safety for a moment. A moment is all the time it takes for an accident to happen.

One of our men went home one evening and told his wife and children about a safety meeting that he had attended at the plant that day where he and his buddies were shown the proper way to lift. He demonstrated to his family that the large muscles of the legs and thighs should carry the load, and not the muscles of the back, which were not designed by nature for bearing heavy strains. A few days later, he came home with a badly sprained back and had to confess with considerable embarrassment that he had lifted the wrong way -- that he had done just what he had shown them that he should not do. He was in bed for several days, and his wife and children had to explain that he knew how to lift, but he forgot.

How many accidents and how many deaths must be charged each year to the demon forgetfulness.

A keen mind in a vigorous, healthy body is our best safeguard. Let us keep our bodies fit and our minds alert, so it will never be necessary to say of us: He knew -- but he forgot.



March 1982

## HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

### Accidents or Mistakes?

"Accident" means an occurrence which is sudden, unexpected, and unforeseen.

In your early days, when your pants were just a square of white cloth, your mother, excused many a mishap by saying "It was just an accident, you couldn't help it, you didn't mean to do it." And she was right--your knowledge and experience did not enable you to foresee the results of your acts. But this idea planted in childhood, that sudden unplanned events are excusable, is hard to erase.

Such thinking has hindered the progress of safety for years. We have learned that practically all of these so-called accidents are preventable. They are not the result of mere chance or bad luck. They are caused by somebody's failure to think or plan or to take known precautions to work the safe way.

We can foresee, for example, that if miners do not wear eye protection, sooner or later, eyes will be lost. When such results are both foreseeable and preventable, how can they be called accidents? When we know that some action, if continued, will surely produce a known effect, the result is not accidental.

Can we throw off the shackles of disproven ideas, wrong words which tie up with the idea of excusability?

Real accidents, events which are unpredictable and unpreventable, are very rare. Mistakes and errors which lead to injuries are common, but they are not accidents.

Instead of misnaming and thus, to some extent, excusing these mistakes, let's use the word "accident" less frequently. Instead of preventing accidents, let's prevent mistakes by learning to work right. Let's achieve safety!





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## HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

### What is an Accident?

What is an accident? Some people think of it as a misadventure, while others dismiss it as an unforeseen or unexpected event, or as a matter of bad luck.

In the interest of living longer, it is a mistake to treat the world so offhandedly. Every accident is caused by something--an unsafe act, an unsafe practice, or an unrealized hazard. It is not 'luck,' which is only a word we use to cover our defects of knowledge. If we wish to live, we must apply our intelligence so as to preserve ourselves.

The shocking fact is that, in keeping with industry and finance which have become computerized to keep up with business--death, too, must be using a computer to count the victims of accidents.

But death by accident is not merely a statistical fact to be tabulated. Death is a personal thing; there is a shocking finality to it.

A key word is 'carelessness.' The poison taken by mistake kills just as certainly as that taken deliberately. The heedlessly driven automobile kills just as certainly as the deliberately dropped bomb. The fire caused by a cigarette kills just as certainly as that started deliberately by an arsonist. No one can escape responsibility by pleading thoughtlessness.

Stop unsafe acts and unsafe conditions and you'll prevent accidents from happening!

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## HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

### What is Safety?

Safety is defined in the dictionary as "freedom from danger or risks."

This is it in a nutshell, but, like most thumbnail definitions, the real meaning of the word is far greater.

One way to appreciate the full value of safety is to consider what it isn't.

Safety is not just wearing goggles in the presense of potential danger to the eyes; rather, safety is the intelligent purpose which leads to the determination not to leave the eyes exposed to hazard.

Safety is not just obeying highway traffic signs; safety is the personal realization that driving always requires maximum caution from everyone.

Safety is not just statistics; these are only a thermometer to measure safety performance. Safety is doing things the safe way as a matter of ingrained habit, and not just because the boss might be looking.

Safety is not something for the other person to apply; safety is the responsibility of each of us, with no exceptions.

If safety is to cut deeply into our accident records, it must be more than blind adherence to rules and practices, important as these are. Safety is a religion whose creed for its believers is, "I must never have an accident myself nor contribute to one by my personal failure."

All religions have their creeds, the foundations upon which their teachings build. It is no different with safety, which should be one 'religion' which there is no difference of opinion.

# ABSTRACT FROM FATAL ACCIDENT

March 1982

HOLMES SAFETY ASSOCIATION  
MONTHLY SAFETY TOPIC



## POWERED HAULAGE ACCIDENT

General Information: A powered haulage accident occurred in a crosscut, in the pillar section of a mine resulting in the death of a miner who was assisting the continuous miner operator helper, and injuries to the roof bolter helper. The victim had about 6 years of mining experience. The accident occurred while they were running from behind the continuous miner to escape a pillar cave, and were struck by the shuttle car as it was also tramping away from the continuous miner. The accident was caused by the victim's and the shuttle car operator's haste in escaping from the pillar cave, and their unawareness of each other's presence in the crosscut.

Description of Accident: Immediately prior to the accident, mining of the final stump of the left fender was proceeding with a Joy 12 CM continuous miner. The victim had been assigned to help the continuous miner operator helper with the continuous miner trailing cable during the mining of the final pushout stump. After half a shuttle car of coal had been mined, the shuttle-car operator, looking over his left shoulder, observed two small pieces of coal fall from the roof. Sensing the impending pillar cave, he started to tram his shuttle car away from the continuous miner. At about the same time, the turn timbers, leading into the lift, began to take weight and a miner hollered to back out the continuous miner. Upon hearing the timbers take weight, and the holler, the crew turned and ran out of the place. The roof bolter helper stated that he was the first man to leave, and that he didn't notice the shuttle car start to move. He felt the concussion from the pillar cave, and then felt himself being pulled down and rolled on the mine floor. At first he thought he was being caught by the pillar cave, but after being freed in the intersection, he could tell that he and the victim had been hit by the shuttle car. Following the accident, the roof bolter helper and the victim came to rest in the entry. The pillar split, adjacent crosscuts, and entries were roof bolted in accordance with the approved roof control plan. Breaker timber, roadway and turn timbers were also set in compliance with the approved roof control plan.

Discussion: The pillar cave that preceeded the fatal powered haulage accident, occurred suddenly and gave no warning. The section foreman, stated that during the mining of the left fender of the pillar, the roof had not been working or showing any signs of a fall. His first indication of the fall was immediately prior to the cave, when the timber beside him started taking weight. The shuttle car was found to be in safe working condition. The shuttle

car operator, stated that he started to tram the shuttle car away from the continuous miner, prior to the section foreman's order to back out. He did not see the victims leave the place, and was unaware that they were beside the shuttle car as he was tramping it away from the continuous miner. The shuttle car was about half loaded, which restricted his visibility to the rear of the shuttle car.

Conclusion: The accident was caused by the victims being struck and dragged by the shuttle car as they were escaping from a pillar mining roof fall through the same crosscut. The following factors contributed to the occurrence of the accident:

1. Neither the shuttle car operator nor the injured miner were aware of each other's presence or movement through the same crosscut.
2. The minimum width of the crosscut, at its narrowest point, was about 15½ feet.
3. The shuttle car began a right turn into the entry in the narrow portion of the crosscut, causing the rear bumper to travel close to the rib line along which the victims were traveling.

A CLEANER PLACE  
IS A SAFER PLACE

March 1982



## HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

### Shuttle-Car Operators

Our safety meeting for today concerns the job of the shuttle-car operator, an occupation that accounts for a number of lost-time accidents.

A great percentage of injuries are caused by haulage accidents, sprains and strains, and roof and rib falls.

Let's briefly discuss each of these.

Haulage. The first requirement for the safe and efficient performance of your job is that your shuttle car be in good mechanical condition. You should check your car thoroughly before making the first trip which should include the brakes, steering, lights, signal alarm, and cable. If repairs are needed, let the section supervisor know, so the condition can be corrected. Operating a defective shuttle car not only endangers yourself, but other people on the section as well.

In your travels over the section, you must be constantly alert and always have your shuttle car under control. Always face in the direction of travel except when you are maneuvering under the boom of the loading machine. You should always keep your entire body within the confines of the seating compartment. Many incidents are recorded where operators of shuttle cars have been dragged from their equipment because some part of their bodies were either above or outside the car. The possibility of being bounced against the roof will be lessened if you keep your head down when in low coal, and also if you keep the roadways free of fallen material.

Sprains and strains. Most of these injuries have resulted from improper lifting. Shuttle-car operators are often called on to load and distribute supplies, help set timbers and crossbars, and to help the electricians and mechanics take heavy repair parts to the face area. I know of no easy way to perform these heavy lifting duties, but I do think they can be handled without anyone being hurt. Don't attempt to lift anything that is too heavy or bulky for you to handle safely; instead, ask for help. There is usually enough people on the section to give you a hand. As I have said before, when you are lifting heavy objects, lift with your legs--not your back.

Roof and rib falls. Many shuttle-car operators have been injured by roof falls caused by the accidental dislodgment of roof supports. The most important thing to consider when operating your car in closely-timbered areas is that your speed will need to be reduced.

One careless or thoughtless moment and your car can be in the timberline. Reduce your speed and keep your car in the runway.

My final thought to you is that if you see any loose roof, ribs, or brows along the roadway, let the section supervisor know so that the situation can be corrected.

## Shuttle-Car Operators

### Outline

- A. Three causes account for a greater percentage of the injuries to shuttle-car operators
- B. Concentrate discussion on three main causes
  1. Haulage -
    - a. Equipment in good condition
    - b. Face in the direction of travel
    - c. Keep body in the seating compartment
    - d. Keep roadways free of fallen material
  2. Sprains and strains -
    - a. Lifting heavy objects part of your duties
    - b. Ask for help to handle heavy objects
    - c. Lift with your legs--not your back
  3. Roof and rib falls
    - a. Accidental dislodgment of roof support
    - b. Reduce speed
    - c. Report any loose roof, ribs, or brows

# ABSTRACT FROM FATAL ACCIDENT

March 1982

HOLMES SAFETY ASSOCIATION  
MONTHLY SAFETY TOPIC



## Fall-of-Person (Suffocation) Accident

General Information: A crusher helper, age 21, was fatally injured when he apparently fell or slipped into a gravity flow sand hopper. This operation, a sand and gravel pit, normally operated one 8-hour shift, 5 days a week. The pit consisted of a single bench 12 feet high. The material was removed and stockpiled with a 560 Hough loader. A smaller loader was utilized to load pit-haulage units which was hauled and stockpiled material for process at the nearby plant. Stockpiled material was fed into the primary crusher by front-end loaders. Crushed and screened material was conveyed to a wash plant where the rock was conveyed to a washer. Washed rock was discharged from the log washer onto a conveyor belt. The sand from the surge pile and the rock were then conveyed to a washing screen, where the discharged material was stockpiled and for commercial use. The accident occurred at the sand surge hopper. The hopper was approximately 6 feet square with a grizzly made of wire rope and rail. The surge hole was funnel shaped. The top was about 7 feet in diameter, and the bottom was about 3 feet in diameter, at the grizzly. The depth of the funnel-shaped surge was 11 feet. Sand was fed into the surge hole with a front-end loader. An excess amount of sand had been stockpiled over the grizzly, requiring employees to work along the edge of the surge hole, barring material through the grizzly in order to keep sand from bridging and plugging the flow of material. This was the company's accepted work procedure for preventing sand from bridging over the grizzly.

Description of Accident: The victim, a clean-up laborer, took the position of sand hopper tender, and awaited the start of the operation. Reportedly, he had been under medical care. Several employees spoke with him about his illness before the sand operation started. Reportedly, the victim's reply was that he was feeling "poorly" and still had dizzy spells. About an hour and a half later the superintendent, approached the welder and asked him to help locate the victim since the superintendent had found the victim's hardhat at the oversized rock bin. A search was started immediately at different plant locations with negative results. The victim was found when the hopper was emptied.

Cause of Accident: The direct cause of the accident was the company condoning the unsafe procedures of employees working from the side of the surge pile hole to free sand hangups. Contributing factors were the lack of guarding around the gravity

flow sand hopper and the victim's failure to position himself in a safe location. A citation was issued based on Part 56.11-12. The opening over the sand bin was not protected by railing or barriers or covers to prevent persons accidentally falling into the sand bin.

Recommendations:

1. Men working on surge or storage piles should not walk, stand or sit immediately above a reclaiming area during reclaiming.
2. All employees and officials should be familiar with company, State, and Federal health and safety regulations applicable to their jobs.
3. Employees should be constantly alert to the potential of accidents on their jobs.



March 1982



## HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

### Excerpts from Code of Federal Regulations Part 77--Surface Coal Mines and Surface Work Areas of Underground Coal Mines Subpart Q--Loading and Hauling

In today's session we will continue our discussion of the safety standards as they pertain to loading and haulage. The majority or fatal haulage accidents in a 5-year period were of two basic types: The haulage truck was involved in a collision with another vehicle or the truck left the road. The victim either jumped or was thrown from the equipment and was run over and crushed by the moving equipment. In 53 percent of the accidents the driver lost control of the vehicle. In a majority of the accidents, poor haulage surface conditions were cited as a contributing factor, characterized as wet or icy roads or loose material on the haulage surface. Inexperience and inattention of the truck drivers were also contributing factors.

Section 77.1607--Loading and haulage equipment; operation.

- (a) Vehicles shall follow at a safe distance; passing shall be limited to areas of adequate clearance and visibility.
- (b) Mobile equipment operators shall have full control of the equipment while it is in motion.
- (c) Equipment operating speeds shall be prudent and consistent with conditions of roadway, grades, clearance, visibility, traffic, and the type of equipment used.
- (d) Cabs of mobile equipment shall be kept free of extraneous materials.
- (e) Operators shall sit facing the direction of travel while operating equipment with dual controls.
- (f) When an equipment operator is present, men shall notify him before getting on or off equipment.
- (g) Equipment operators shall be certain, by signal or other means, that all persons are clear before starting or moving equipment.
- (h) Where possible, aerial tramways shall not be started until the tramway operator has ascertained that everyone is in the clear.
- (i) Dust control measures shall be taken where dust significantly reduces visibility of equipment operators.
- (j) Dippers, buckets, loading booms, or heavy suspended loads

shall not be swung over the cabs of haulage vehicles until the drivers are out of the cabs and in safe locations, unless the trucks are designed specifically to protect the drivers from falling material.

(k) Men shall not work or pass under the buckets or booms of loaders in operation.

(l) Tires shall be deflated before repairs on them are started and adequate means shall be provided to prevent wheel locking rims from creating a hazard during tire inflation.

(m) Electrically powered mobile equipment shall not be left unattended unless the master switch is in the off position, all operating controls are in the neutral position, and the brakes are set or other equivalent precautions are taken against rolling.

(n) Mobile equipment shall not be left unattended unless the brakes are set. The wheels shall be turned into a bank or berm, or shall be blocked, when such equipment is parked on a grade.

(o) Lights, flares, or other warning devices shall be posted when parked equipment creates a hazard to vehicular traffic.

(p) Dippers, buckets, scraper blades, and similar movable parts shall be secured or lowered to the ground when not in use.

(q) Shovel trailing cables shall not be moved with the shovel dipper unless cable slings or sleds are used.

(r) Equipment which is to be hauled shall be loaded and protected so as to prevent sliding or spillage.

(s) When moving between work areas, the equipment shall be secured in the travel position.

(t) Any load extending more than 4 feet beyond the rear of the vehicle body should be marked clearly with a red flag by day and a red light at night.

(u) Tow bars shall be used to tow heavy equipment and a safety chain shall be used in conjunction with each tow bar.

(v) Railroad cars shall be kept under control at all times by the car dropper. Cars shall be dropped at a safe rate and in a manner that will insure that the car dropper maintains a safe position while working and traveling around the cars.

(w) Railroad cars shall not be coupled or uncoupled manually from the inside of curves unless the railroad and cars are so designed to eliminate any hazard from coupling or uncoupling cars from inside of curves.

(x) Persons shall wear safety belts when dropping railroad cars. (The intent of Section 77.1607(x) is to require persons dropping railroad cars to suitably attach safety belts to prevent falling.)

(y) Railcars shall not be left on sidetracks unless ample clearance is provided for traffic on adjacent tracks.

(z) Parked railcars, unless held effectively by brakes, shall be blocked securely.

(aa) Railroad cars and all trucks shall be trimmed properly when they have been loaded higher than the confines of their cargo space.

(bb) When the entire length of a conveyor is visible from the starting switch, the operator shall visually check to make certain that all persons are in the clear before starting the conveyor. When the entire length of the conveyor is not visible from the starting switch, a positive audible or visible warning system shall be installed and operated to warn persons that the conveyor will be started.

(cc) Unguarded conveyors with walkways shall be equipped with emergency stop devices or cords along their full length.

(dd) Adequate backstops or brakes shall be installed on inclined-conveyor drive units to prevent conveyors from running in reverse if a hazard to personnel would be caused.

(ee) Aerial tram conveyor buckets shall not be overloaded, and feed shall be regulated to prevent spillage.

#### Section 77.1608--Dumping facilities.

(a) Dumping locations and haulage roads shall be kept reasonably free of water, debris, and spillage.

(b) Where the ground at a dumping place may fail to support the weight of a loaded dump truck, trucks shall be dumped a safe distance back from the edge of the bank.

(c) Adequate protection shall be provided at dumping locations where persons may be endangered by falling material.

(d) Grizzlies, grates, and other sizing devices at dump and transfer points shall be anchored securely in place.

(e) If truck spotters are used, they shall be well in the clear while trucks are backing into dumping position and dumping; lights shall be used at night to direct trucks.



## HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Code of Federal Regulations  
Subchapter N--Metal and Nonmetallic  
Open-Pit Mines  
Part 55.12--Electricity

All of these standards are mandatory. Violations of a standard will subject the mine operator to an order or notice of violation as required by Section 8 of the Act.

55.12-1 Circuits shall be protected against excessive overload by fuses or circuit breakers of the correct type and capacity.

55.12-2 Electric equipment and circuits shall be provided with switches or other controls. Such switches or controls shall be of approved design and construction and shall be properly installed.

55.12-3 Individual overload protection or short-circuit protection shall be provided for the trailing cables of mobile equipment.

55.12-4 Electrical conductors shall be of a sufficient size and current-carrying capacity to ensure that a rise in temperature resulting from normal operations will not damage the insulating materials. Electrical conductors exposed to mechanical damage shall be protected.

55.12-5 Mobile equipment shall not run over power conductors, nor shall loads be dragged over power conductors, unless the conductors are properly bridged or protected.

55.12-6 Distribution boxes shall be provided with a disconnecting device for each branch circuit. Such disconnecting devices shall be equipped or designed in such a manner that it can be determined by visual observation when such a device is open and that the circuit is deenergized, and the distribution box shall be labeled to show which circuit each device controls.

55.12-7 Trailing-cable and power-cable connections to junction boxes shall not be made or broken under load.

55.12-8 Power wires and cables shall be insulated adequately where they pass into or out of electrical compartments. Cables shall enter metal frames of motors, splice boxes, and electrical compartments only through proper fittings. When insulated wires, other than cables, pass through metal frames, the holes shall be substantially bushed with insulated bushings.

55.12-9 (Reserved)

55.12-10 Telephone and low-potential signal wire shall be protected, by isolation or suitable insulation, or both, from

contacting energized power conductors or any other power source.

55.12-11 High-potential electrical conductors shall be covered, insulated, or placed to prevent contact with low potential conductors.

55.12-12 The potential on bare signal wires accessible to contact by persons shall not exceed 48 volts.

55.12-13 Permanent splices and repairs made in power cables, including the ground conductor where provided, shall be:

(a) Mechanically strong with electrical conductivity as near as possible to that of the original;

(b) Insulated to a degree at least equal to that of the original, and sealed to exclude moisture; and

(c) Provided with damage protection as near as possible to that of the original, including good bonding to the outer jacket.

55.12-14 Power cables energized to potentials in excess of 150 volts, phase-to-ground, shall not be moved with equipment unless sleds or slings, insulated from such equipment, are used. When such energized cables are moved manually, insulated hooks, tongs, ropes, or slings shall be used unless suitable protection for persons is provided by other means. This does not prohibit pulling or dragging of cable by the equipment it powers when the cable is physically attached to the equipment by suitable mechanical devices, and the cable is insulated from the equipment in conformance with other standards in this part.

55.12-15 (Reserved)

55.12-16 Electrically powered equipment shall be deenergized before mechanical work is done on such equipment. Power switches shall be locked out or other measures taken which shall prevent the equipment from being energized without the knowledge of the individuals working on it. Suitable warning notices shall be posted at the power switch and signed by the individuals who are to do the work. Such locks or preventive devices shall be removed only by the persons who installed them or by authorized personnel.

55.12-17 Power circuits shall be deenergized before work is done on such circuits unless hot-line tools are used. Suitable warning signs shall be posted by the individuals who are to do the work. Switches shall be locked out or other measures taken which shall prevent the power circuits from being energized without the knowledge of the individuals working on them. Such locks, signs, or preventative devices shall be removed only by the person who installed them or by authorized personnel.

55.12-18 Principal power switches shall be labeled to show which units they control, unless identification can be made readily by location.

55.12-19 Where access is necessary, suitable clearance shall be

provided at stationary electrical equipment or switchgear.

55.12-20 Dry wooden platforms, insulating mats, or other electrically-nonconductive material shall be kept in place at all switchboards and power-control switches where shock hazards exist. However, metal plates on which a person normally would stand and which are kept at the same potential as the grounded, metal, non-current-carrying parts of the power switches to be operated may be used.

55.12-21 Suitable danger signs shall be posted at all major electrical installations.

55.12-22 Areas containing major electrical installations should be entered only by authorized persons.

55.12-23 Electrical connections and resistor grids that are difficult or impractical to insulate shall be guarded, unless protection is provided by location.

55.12-24 (Reserved)

55.12-25 All metal enclosing or encasing electrical circuits shall be grounded or provided with equivalent protection. This requirement does not apply to battery-operated equipment.

55.12-26 Metal fencing and metal buildings enclosing transformers and switchgear shall be grounded.

55.12-27 Frame grounding or equivalent protection shall be provided for mobile equipment powered through trailing cables.

55.12-28 Continuity and resistance of grounding systems shall be tested immediately after installation, repair, and modification; and annually thereafter. A record of the resistance measured during the most recent tests shall be made available on a request by the Secretary or his duly authorized representative.

55.12-29 (Reserved)

55.12-30 When a potentially dangerous condition is found it shall be corrected before equipment or wiring is energized.

55.12-31 (Reserved)

55.12-32 Inspection and cover plates on electrical equipment and junction boxes shall be kept in place at all times except during testing or repairs.

55.12-33 Hand-held electric tools shall not be operated at high potential voltages.

55.12-34 Portable extension lights, and other lights that by their location present a shock or burn hazard, shall be guarded.

55.12-35 Lamp sockets shall be of a weatherproof type where they are exposed to weather or wet conditions that may interfere with illumination or create a shock hazard.

55.12-36 Fuses shall not be removed or replaced by hand in an energized circuit, and they shall not otherwise be removed or replaced in an energized circuit unless equipment and techniques especially designed to prevent electrical shock are provided and used for such purpose.

55.12-37 Fuse tongs or hot line tools shall be used when fuses are removed or replaced in high-potential circuits.

55.12-38 Trailing cables shall be attached to machines in a suitable manner to protect the cable from damage and to prevent strain on the electrical connections.

55.12-39 Surplus trailing cables to shovels, cranes, and similar equipment shall be--

- (a) Stored in cable boats;
- (b) Stored on reels mounted on the equipment; or
- (c) Otherwise protected from mechanical damage.

55.12-40 Operating controls shall be installed so that they can be operated without danger of contact with energized conductors.

55.12-41 Switches and starting boxes shall be of safe design and capacity.

55.12-42 Both rails shall be bonded or welded at every joint and rails shall be crossbonded at least every 200 feet if the track serves as the return trolley circuit. When rails are moved, replaced, or broken bonds are discovered, they shall be rebonded within three working shifts.

55.12-43 and 12-44 (Reserved)

55.12-45 Overhead high-potential powerlines shall be installed as specified by the National Electrical Code.

55.12-46 (Reserved)

55.12-47 Guy wires of poles supporting high-voltage transmission lines shall meet the requirements for grounding or insulator protection of the National Electrical Safety Code, Part 2, entitled "Safety Rules for the Installation and Maintenance of Electric Supply and Communication Lines," (also referred to as National Bureau of Standards Handbook 81, November 1, 1961) and Supplement 2 thereof issued March 1968, which are hereby incorporated by reference and made a part hereof. These publications and documents may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, or may be examined in any Metal and Nonmetal Safety and Health District or Subdistrict Office of the Mine Safety and Health Administration.

55.12-48 Telegraph, telephone, or signal wires shall not be installed on the same crossarm with power conductors. When

carried on poles supporting powerlines, they shall be installed as specified by the National Electric Code.

55.12-49 (Reserved)

55.12-50 Trolley wires shall be installed at least (7) feet above rails where height permits, and aligned and supported to suitably control sway and sag.

55.12-51 (Reserved)

55.12-52 (Reserved)

55.12-53 Ground wires for lighting circuits powered from trolley wires shall be connected securely to the ground-return circuit.

55.12-54 through 12-64 (Reserved)

55.12-65 Powerlines, including trolley wires, and telephone circuits shall be protected against short circuits and lightning.

55.12-66 Where metallic tools or equipment can come in contact with trolley wires or bare powerlines, the lines shall be guarded or deenergized.

55.12-67 Transformers shall be totally enclosed, or shall be placed at least 8 feet above the ground, or installed in a transformer house, or surrounded by a substantial fence at least 6 feet high and at least 3 feet from any energized parts, casings, or wiring.

55.12-68 Transformer enclosures shall be kept locked against unauthorized entry.

55.12-69 Each ungrounded power conductor or telephone wire that leads underground and is directly exposed to lightning shall be equipped with suitable lightning arrestors of approved type within 100 feet of the point where the circuit enters the mine. Lightning arrestors shall be connected to a low resistance grounding medium on the surface and shall be separated from neutral grounds by a distance of not less than 25 feet.

55.12-70 (Reserved)

55.12-71 When equipment must be moved or operated near energized high-voltage powerlines (other than trolley lines) and the clearance is less than 10 feet, the lines shall be deenergized or other precautionary measures shall be taken.



# THE LAST WORD

March 1982

## TEN DIGITS TO DEFEND

Check your hands. Open and close them. Touch something. Pick up something. Everyday occurrences? Perhaps. But few other living things possess the gifts we take for granted when we use our hands and fingers.

Progress has not been achieved by one's superior brain alone. It has taken the hands and fingers to do the brain's bidding. Our hands and fingers are the most efficient and useful tools on earth.

Blessed with these remarkable tools, we enjoy pleasure as well as progress. But whatever pleasure, whatever usefulness they bring we can vanish forever if we lose our fingers or our hands.

Despite the genius of modern science, there are no satisfactory replacements for hands and fingers. The sense of touch, the automatic reflexes, the ability to grasp and to maneuver, can never be duplicated by any artificial device.

One principal cause of hand injuries is getting hands or fingers caught between two objects. There is a name for these places where hands can be caught between objects. The name is "pinchpoints."

"Pinchpoints" are everywhere...auto doors...desk drawers...machinery in motion, and occur in piling material... using hand tools...handling brick... stamping...hooking...even in sports.

Two hands, ten fingers, and millions of movements--it's no wonder hand and finger injuries are a safety problem in industry.

**"SAFETY"**  
**It's Up to You,**  
**In '82**



## HAND CARE

Some people spend a surprising amount of money and time to keep their car's finish clean, rustproof, and shiny. The wash-and-polish cycle is interrupted only when weather conditions are bad.

Many of these car owners who take such extra-special care of their cars don't give their skin a second thought.

When their hands get oily and greasy, they give them a quick cleanup with gasoline, naphtha, kerosene, turpentine, or strong lye soap.

These substances take away natural oils from the skin and may leave it irritated and inflamed.

Your safest cleanup bet is an old standby--soap and water. A soft brush will help them do an even better job.

## EYES ARE EVERYTHING

"Whenever I draw a face," an artist said recently, "I start with the eyes. And when I've finished the eyes, I know whether or not I've got the face right, because the eyes are everything."

In a person's eyes, you see the very stuff they're made of: fire, sparkle, determination, dullness, imagination, hate, hope, love. And through a person's eyes, they see the very stuff their life is made of: earth, sky, loved ones, work, their world--just about everything he knows.

Eyes. The best two reasons we know of for proper eye protection.

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HOLMES SAFETY ASSOCIATION  
MEETING REPORT FORM

For the month of \_\_\_\_\_

TOTAL meetings held this month \_\_\_\_\_

TOTAL attendance this month \_\_\_\_\_

Chapter Number \_\_\_\_\_ (See address label, if incorrect, please indicate change.)

\_\_\_\_\_  
(Telephone No.)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

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For uninterrupted delivery, please include any change of address below:

The Joseph A. Holmes Safety Association was founded in 1916 by 24 leading National organizations of the mining industries.

The Joseph A. Holmes Safety Association is named to commemorate the first director of the Bureau of Mines for his efforts in reducing accidents and illness throughout the mineral industries.

The following is the different award criteria:

Type "A" Awards - For Acts of Heroism

The awards are medals with Medal of Honor Certificate.

Type "A" - For Acts of Heroic Assistance

The awards are Certificates of Honor.

Type B-1 Awards - For Individual Workers

(40 years continuous work experience without injury that resulted in lost workdays)

The awards are Certificate of Honor, Gold Pins and Gold Decal.

Type B-2 Awards - For Individual Officials

(For record of group working under their supervision)

The awards are Certificate of Honor.

Type C Awards - For Safety Records

(For all segments of the mineral extractive industries, meeting adopted criteria)

The awards are Certificate of Honor.

Other Awards - For Individual Workers

(For 10, 20, or 30 years without injury resulting in lost workdays)

The awards are 30 years-Silver Pin and Decal, 20 years-Bronze Pin and Decal, 10 years-Decal bearing insignia.

Special Awards - For Small Operators

(Mine operators with 25 employees or less with outstanding safety records)

The awards are Certificate of Honor!

Contact: HSA Office

Department of Labor  
MSHA, Holmes Safety Association  
4800 Forbes Avenue, Room A268  
Pittsburgh, PA 15213

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