BULLETIN

HOLMES SAFETY ASSOCIATION

E PLURIBUS UNUM

SAFETY EFFICIENCY

MINERAL INDUSTRIES

HOLMES SAFETY ASSOCIATION MR. JACK SAFETY

March 1991

HOLMES SAFETY ASSOCIATION OPEN-PIT PETE

March 1991

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KEEP US IN CIRCULATION

The Holmes Safety Bulletin contains safety articles on a variety of subjects: fatal accident abstracts, studies, posters and other 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.

To report monthly chapter meetings, please use the postage-paid report form (please DO NOT use staples) located in the centerfold of this Bulletin and return to the Holmes Safety Association.

Welcome New Members

CHAPTER NAME	CHAPTER NUMBER	LOCATION
Washington County Road	10078	Fayetteville, AR
Greenley Energy Holdings of PA	10079	Windber, PA
J & L Coal Company, Inc.	10080	Fedscreek, KY
A R C (No. 2)	10081	Pikeville, KY
Four-O-Mining Company, Inc.	10082	Grundy, VA
Mountain Home Quarries, Inc.	10083	Mountain Home, AR
Diners Prospect, Inc.	10084	Elkhorn City, KY
Low Vein Coal	10085	Norton, VA
First Security Alpha	10086	Neon, KY
Harrison Western Mining Corp.	10087	Lakewood, CO
Moonshine Mine	10088	Kingwood, WV
Baldwin Coal Corporation	10089	Grundy, VA
Luke Construction Company	10090	Kimball, SD
Buckridge	10091	Windber, PA
Envirotech Services, KBC	10092	Salt Lake City, UT
Kendrick Brothers Const., Inc.	10093	Salt Lake City, UT
Ryan Coal Company, Inc.	10094	Grundy, VA
McGlothlin Coal Co. (#16 Mine)	10095	Tazewell, VA
Florence Preparation Plant	10096	Indiana, PA
Florence Shop & Const. Crew	10097	Indiana, PA
Black Nugget Mining (#2 Mine)	10098	Grundy, VA

CHAPTER NAME	CHAPTER NO.	LOCATION
Black Canyon Mining	10099	St. Paul, VA
J. H. EM Coal Company (No. 1)	10100	Wise, VA
Compania Minera Santa Gertrudi	10101	Nogales, AZ
Yuma County Highway Dept.	10102	Yuma, AZ
Fortuna Wash Pit	10103	Yuma, AZ
Coral	10104	Rising Star, TX
Lydia	10105	Lydia, LA
Youngsville	10106	Youngsville, LA
Capitol Protection	10107	Baton Rouge, LA
Loreauville	10108	Loreauville, LA
Saltmen	10109	New Iberia, LA
Momence	10110	Momence, IL
AR DOL, Mine Inspection Div.	10111	Fort Smith, ##
Benton Pit	10112	Bountiful, UT
Top Flite Coal Corp. (#2 Mine)	10113	Tazewell, VA
Corbin Coal Company, Inc.	10114	Pikeville, KY
RV Mining, Inc. (No. 2 Auger)	10115	Pineville, KY
Teays Mining, Inc. (Mine #1)	10116	Mt. Hope, WV
Teays Mining, Inc. (Mine #2)	10117	Mt. Hope, WV
Construction & Mining, Inc.	10118	S. Charleston, WV
Wind River Resources	10119	Madison, WV
Gem Resources Management	10120	Helena, MT

ALERT—Lack of sleep can be a major cause of accidents

It's almost impossible to control employee behavior off the job, and yet this is where conditions may be created that result in accidents on the job.

Substance abuse is one condition that comes to mind. A condition harder to detect, yet suspected of being a major cause of many accidents, is lack of sleep.

Researchers have been studying sleep for 30 years, but why we sleep continues to be a mystery. We spend approximately one third of our lives sleeping. One thing we can say for certain is that we do not feel well if we do not receive a good night's sleep. One aspect of sleep that has been studied is the circadian rhythm, which is the internal body clock we live by.

The human biological clock is adjusted to a cycle of activity during the day and rest at night. Prior to the Industrial Revolution, few people were required to do night work. Today, it is estimated 20 million Americans have work schedules which require them to work shifts when their bodies tell them they should be in bed. Surveys indicate over half of these shift workers doze off at least once a week on the job. When they are in control of delicate controls or a large piece of machinery, this can be disastrous: Three Mile Island nuclear accident occurred at 4 a.m.; Chernobyl, at 2 a.m.; Bhopal, at midnight; the Exxon Valdez, around midnight.

In March of 1990, a haulage truck driver at an Arizona copper mine drove his loaded 170-ton truck over a 50-foot bench at 5 a.m.—in the 10th hour of a 12-hour shift. The operator apparently fell asleep at the wheel. The investigation found that he woke up and attempted to exit the giant truck when it hit the berm and tumbled over the edge to the bench 50 feet below. The driver suffered injuries to his head and died four days later of the injuries sustained.

Recent studies of body rhythms have shown that shift work and long working hours are factors that contribute to diminished performance, physical ailments, and sleeping on the job. Lack of sleep may be a hidden cause of industrial accidents.

The studies have also stated that in addition to damaging an individual's psychological and physical well-being, sleep deprivation costs the United States $70 billion a year in lost productivity and medical costs. Nearly half of all Americans short themselves of one to two hours of sleep per night by staying up to watch the 10 p.m. news.

Shift workers are generally rotated counterclockwise to the earlier hours, opposite to the body's biological clock. They are switched back and forth too frequently to allow natural adjustment. Researchers have found that on a rotating-shift schedule, accidents increased significantly during the final two hours of a shift, and were 40% greater at night than in the daytime. We should be as concerned about our sleeping patterns as we are about our diet and exercise.

Our body temperature lowers slightly during the night when we are at rest, and it normally rises during the day with activity and sunshine. Laboratory studies have found that increases in human efficiency throughout the day generally parallel body temperature changes (the circadian rhythm). The body is able to adjust to temporary changes. However, permanent night work does not seem to be the answer. Over the weekend or during other days off, these employees revert to

a normal daylight type of living with their family and community. Their temperature rhythm presumably reverts back to normal on these days off, requiring the employee to begin adapting to night activity when work is resumed. This adaptation occurs on the job.

Ergonomic research, the study of man's behavior in relation to his work, is continuing. The night shift does allow more flexibility for employee sleep strategies. It has been suggested that a more biocompatible schedule is to sleep closer to the cycle of the circadian rhythm by realigning your sleep schedule so that you receive your normal requirement of sleep and awake just prior to going to work. Similar to working on the day shift. Other research indicates the best approach for night shift employees is to split their sleep into two segments.

The fact remains that when anyone tries to sleep during the day, the sleep is lessened both quantitatively and qualitatively. The body is biologically warming up for normal daytime activity. At least one week may be needed for these bodily rhythms to synchronize with a shift change. The solution to night time inefficiency depends upon the specific circumstance. At present, training and education of both the employee and employer are the best methods we know to combat human error during shift work. All of us must understand the importance of adequate sleep in allowing the body to regenerate and function at peak efficiency and in obtaining an accident-free work place with zero fatalities by the year 2000.

Circadian rhythms and night shift work

The circadian (Latin circa = about + dies = day) body rhythms that compelled the Arizona driver towards sleep while he fought to stay awake was greatly influenced by ordinary daylight. The effect of bright light is transmitted from the eye to the hypothalamus and there used to synchronize the circadian pacemaker with the light-dark cycle.

Night work is blamed for an increase in a myriad of ills, including heart disease and gastrointestinal disorders, but insomnia (the inability to sleep well) gets the bulk of the scientific attention. Recent studies show that late night workers sleep less (on average) than day or evening workers and that they subjectively judge their sleep to be inferior to night sleep.

An intriguing experiment at Brigham and Woman's Hospital in Boston showed that exposure to very bright light, 7,000 to 12,000 lux, during early morning hours (00:15 to 07:45 a.m.) combined with almost complete avoidance of light between 9:00 a.m. and 5:00 p.m. reoriented the subjects' circadian rhythms to optimum compatibility with night shift work. Thus, employers may have a means to help their employees adjust to night shift work.

There are a number of common sense recommendations that night shift workers should attempt to follow:

1. Silence telephones, door bells and domestic appliances.
2. Ask family and neighbors to be quiet.
3. Use heavy curtains to make the bedroom as quiet and dark as possible.
4. Moderate or eliminate the consumption of alcohol and caffeine as these can interfere with quality sleep.
5. Finally, be aware that shift work can powerfully disrupt the circadian rhythms and social interaction that gives daily life its special meaning. Therefore, be on guard against sleep deprivation that can cause lapses in judgement and accidents.

Holmes Safety Association Monthly Safety Topic

Fatal slip and fall accident

GENERAL INFORMATION: A 36 year-old shipping department employee died from asphyxiation after falling head first into a rail hopper car. The car had been partially loaded with cement to a depth of 30 inches. He had worked at this plant for about 11 years, with 8 years in the shipping department.

DESCRIPTION OF ACCIDENT: The victim, a shipping department employee, reported to work at his normal starting time of 7:00 a.m. On the morning of the accident, he was assigned to load cement into bulk rail cars. The load-out man was assigned to work the kiln console on Thursdays and the victim regularly replaced him in the load-out area. A pack house utility man switched rail cars while the operator ran the locomotive. The three men finished loading a hopper car that had been partially loaded the day before. An additional car was loaded by the victim and those cars were moved to another track. Three additional cars were then pulled under the silos for loading. The victim, on top of the first car, was asked if he had his safety belt. When he responded in the negative, the utility man went to the scalehouse and picked up a safety belt. He returned to the load-out area and threw it up onto the first car, nearest the locomotive. After this car was loaded the next car was spotted for loading. That particular car, along with the third car, had four rectangular doors on top. Each end door was opened leaving the middle two doors closed. Approximately two tons of cement were loaded into the second car through the first door, then the car was moved and about two more tons were loaded through the fourth door. The loading was stopped for awhile to allow the cement to settle and also to seal leaks around the closed discharge doors.

The locomotive operator contacted the victim by two-way radio and told him to be sure to put his safety belt on and he responded with a "10-4." The victim walked along the top of the car and stepped down onto the first car where the utility man had thrown the belt. The victim picked up the belt and stepped up onto the second car when he apparently tripped and fell head first into the car. He was carrying his safety belt in one hand and his radio in the other. The utility man, located on the ground, saw the victim peripherally and heard a noise as he stepped from car to car. He looked up and not seeing the victim, yelled up asking him if he was alright. When there was no response, he immediately climbed up on top of the car and called down into the car. Because of the heavy dust, he could not see into the car. He grabbed a portable light and lowered it down into the car. It bumped into the victim and he grabbed onto it and yelled for help to get out. The utility man climbed down from the car and yelled for the third man to help. He got a rope and threw it up to the utility man who had climbed back on top of the car. The two men pulled the victim out. Emergency medical help was summoned

Metal and Nonmetal mine fatalities to date — thru 02-15-91

Type	1987		1988		1989		1990		1991	
	UG	S	UG	S	UG	S	UG	S	UG	S
Electrical	—	1	—	—	—	—	—	—	—	1
Fall of roof/back	—	—	—	—	1	—	1	—	—	—
Haulage	1	4	—	1	—	1	—	3	—	—
Machinery	1	2	—	—	—	—	—	1	—	—
Other	3	1	—	—	1	5	1	—	1	1
Total	5	8	—	1	2	6	2	4	1	2

as the victim was lowered from the top of the car to ground level. The cement was washed from the victim's mouth, nose, and eyes. The victim kept complaining that he could not breathe as the emergency medical service arrived. An emergency helicopter was dispatched and arrived at the plant at 9:51 a.m. The paramedics began emergency treatment, but the victim became unconscious a short time later. He was loaded into the helicopter and flown to the hospital, arriving at 10:20 a.m., where he was pronounced dead a short time later.

CONCLUSIONS: This fatality occurred because the victim was walking on top of the rail cars without wearing his safety belt. Contributing to the accident were the tripping hazards on the top of each rail car and the difference in height of the cars. The first car was 12 inches lower than the second car. In addition, the victim was carrying a two-way radio in one hand and a safety belt with lanyard in the other as he stepped from car to car.

Job safety analysis

By Douglas K. Martin, Arizona State Mine Inspector

Several safety manuals insist there is no such thing as an accident. There are only failures on the part of people to control the situation. Machinery, equipment, vehicles, tools, timbers and structures are only inanimate objects and by themselves cannot cause an *incident*. An *incident* occurs when the people who operate or maintain the equipment fail to do so properly. If the unplanned release of energy or hazardous material (I define this as an *accident*) causes injury or property damage, this *incident* can be traced back to some individual or group of individuals who have failed to recognize the potential for this *incident* to happen.

The text books are strong with the definition of *incident*, and they do bring home the point. Proper planning and anticipating under what circumstances an *incident* can occur, goes a long way toward avoiding that accident.

Job Safety Analysis is based on the concept that any job can be broken down into a series of relatively simple steps, that any hazards associated with each step can be identified and solutions can be developed to control each hazard.

The U. S. Department of Labor's Mine Safety and Health Administration has conducted extensive research on the subject and condensed much of it into a pamphlet available to anyone in any phase of mining.

A detailed analysis of an accident will normally reveal three levels of causes for that accident: basic, indirect, and direct causes.

At the basic level, Job Safety Analysis will reveal that accidents may be remedied by establishing meaningful safety policies, creating a safety awareness, and dealing with the personal and environmental factors that lead to accidents.

Indirect causes also may be identified and eliminated through Job Safety Analysis. Unsafe acts and conditions can be discovered and safe procedures developed before an accident occurs. Safety training and education programs, improvement in the work environment, and safe design and maintenance of equipment and facilities may be all it takes to prevent an accident.

At the third level (direct causes), Job Safety Analysis addresses itself to the protection of people, should an unplanned release of energy or hazardous material occur. Where possible, the quantities of available energy or hazardous material must be reduced. If the quantities cannot be reduced, the site should be reinforced and each worker protected with appropriate equipment and guards. This is also the level at which emergency procedures would be developed.

Practical application of Job Safety Analysis is fairly simple: (1) Select the job to be analyzed, (2) Break the job into its basic steps, (3) Identify the hazards associated with each step, and (4) Control each hazard.

The worker on the job should be kept actively involved throughout the entire process of Job Safety Analysis. The job breakdown, the hazards, and the solutions should all be discussed with the employee. The more the employee is involved, the more successful the Job Safety Analysis will be and all can participate in "Safe Procedures."

Courtesy of Southwest Contractor, September, 1990.

Announcements:

Joseph A. Holmes awards deadline — April 1st!

Attention Safety Directors and other company officials:
Take a few minutes to review page 32 of this Bulletin and see if any of your employees can qualify for a Joseph A. Holmes Award.

Further information can be obtained from the HSA office in Beckley, West Virginia (304) 256-3245, or by contacting:

Don Farley, Secretary
Joseph A. Holmes Safety Association
Mine Safety & Health Administration
Educational Policy and Development
P.O. Box 1166
Beckley, West Virginia 25802-1166

Virginia Department of Mines examination schedule announced

The Virginia Department of Mines has announced its 1991 Certification Examination Schedule at the DM locations listed below. A maximum of thirty (30) people per location will be scheduled for each examination date. A $10.00 fee (certified check or money order made payable to *Treasurer of Virginia*) is required ten (10) days prior to the examination date.

Mountain Empire Community College,
Dalton/Cantrell Hall, Room 129
Big Stone Gap. Virginia
February 15, 1991
April 19, 1991
June 14, 1991
August 9, 1991
October 11, 1991
December 12, 1991

Keen Mountain Office
Keen Mountain, Virginia 24624
P.O. Box 709, Near Post Office
Phone: (703) 498-4536
February 8, 1991
April 12, 1991
June 7, 1991
August 16, 1991
October 4, 1991
December 6, 1991

Southwest Safety Congress and Exposition

The *26th Annual Congress and Exposition* will assist business, government and industry in maintaining outstanding health and safety awareness through:

Technical sessions
50+ sessions addressing the growing responsibilities of today's safety professionals: Manufacturing, Nursing, Municipal, Mining, Aviation, Construction, Environmental and Special interests.

Trade show
The latest in health and safety products from new firms and seasoned industry leaders. New products and improved products will be on display.

Networking
Join the thousand or so other safety professionals; corporate and municipal safety managers, government officials, plant and site managers, engineers and consultants.

Registration: $75 or $25 per day 20% discount for 10 or more registrations

May 29-31, 1991, at the Phoenix Sheraton, Phoenix, AZ

South Carolina announces courses

Two important programs are scheduled for South Carolina miners during May 1991.

Harbison Campus
Midlands Technical College
P.O. Box 2408
Columbia, SC
9 a.m.–3 p.m.
Instructor Resources Seminar–a program presented by a number of institutions to identify the means and methods for streamlining and modernizing *Part 48 Training for Surface Miners* .

Each Thursday during May 1991 an *Instructor Training Course* will be conducted at Harbison Campus. This 40-hour classroom program will qualify successful participants for MSHA-approved instructor status.

Annual meeting of the WV State Council of the HSA

Eighth annual meeting of the West Virginia State Council of the Holmes Safety Association

The Eighth Annual State Council meeting of the Holmes Safety Association will convene at the Wisp Resort on May 17-18, 1991.

Lodging at the Wisp Resort – Reservations must be made directly with the Wisp. Rate is $59 plus tax for single or double.

75 rooms have been reserved until April 16, 1991. Major credit cards or first night's lodging fee is required for reservations. Cancellations received 48 hours prior to the first night's lodging can be refunded. Telephone: *1-800-462-WISP.*

Be sure to mention the ***West Virginia Holmes Safety Meeting.***

JSA program announced

Minnesota technical college develops comprehensive program

Safety in the workplace is necessary for everyone—the employee as well as the employer. Workplace conditions, especially equipment and procedures have changed significantly, therefore the acceptance of safety in the philosophy of work is necessary to keep production up and costs down.

Job Safety Analysis is a program that can meet the goals of increased safe employee performance, a reduction in accident costs and an improvement in production. One of the most practical methods available is employees and supervisors working together to identify potential safety problems and to develop step-by-step procedures to eliminate hazards. Experience shows that this back-to-basics accident prevention can result in higher production and fewer accidents because employees know how to do their jobs and why it's important to do them safely.

The *Hibbing Technical College* (Hibbing, MN) has developed a comprehensive JSA program designed to meet the needs of today's progressive, safety-minded employer. The program can be customized to meet the specific needs of each individual organization. Programs can vary from a brief introductory overview to the establishment of a complete JSA program.

For further information please contact Tom Techar, Tony Harkonen, or Tom Gregarich of the Hibbing Technical College at (218) 262-6253.

Safety comes first in the office, too!

You may not need to wear a hard hat, but office jobs can be dangerous too.

Falls are common in offices. So, kick the "hobbling" habit and select low-heeled shoes that make it easier to balance yourself. Make sure loose ends of carpet are trimmed, rolling edges or open seams taped. On hard floors, be alert for coffee spills, dropped pens, or slippery bits of stray paper.

Never, for any reason, use a chair for a ladder. Use a step stool or a ladder.

Keep drawers closed, both to avoid tripping over them and to eliminate the chance the desk or file might tip over.

Take the following check list around your office and see how it matches up:

Check list for office safety

1. Electrical cords in good condition and out of traffic.
2. Floors clean and in good repair.
3. Drawers closed, chairs under desks.
4. Appliances unplugged when not in use.
5. Heavy items lifted properly.
6. Smoking rules posted and observed.
7. Every employee knowledgable about the location and use of the nearest fire extinguishers.
8. Emergency numbers posted by every telephone.

Reprinted from **Miner Details** *– a publication of the Kansas small mine safety newsletter, December 1990.*

Keep your garage safe

The modern garage is seldom just a home for the family car—it often serves as a workshop, garden shed and warehouse as well. But this cluttered versatility also makes the garage an accident waiting to happen. Tips to keep the garage safe:

☐ **Remove clutter.** Have a place for everything and keep everything in its place.

☐ **Provide adequate electric power** to accommodate heavy-duty electric shop equipment.

☐ **Prevent fires.**

– Store gasoline in a tightly closed container specifically designed for it. Don't store it in an attached garage, or near the hot water heater.

– Store all flammable liquids such as paint thinner, solvents & charcoal starter in their original metal containers in a well ventilated area.

– Discard oily or paint soaked rags, or keep them in tight metal containers.

– Keep a multipurpose fire extinguisher in the garage and make sure that it is in working order and that you know how to use it.

☐ **Store poisons safely.**

– Store pesticides and other garden products in their original containers. Keep these clearly labeled, and out of reach of children and pets.

– Check containers periodically for rust spots, leaks or breaks.

– Discard a container by wrapping it in layers of newspaper. Then put it in a plastic bag or box, before placing in the garbage can [check local ordinances before disposing of any possibly hazardous chemicals—these may have to be taken to specific disposal sites].

State of Nevada, Mine Safety Sense, December 1990.

High pressure injection injuries

Hydraulically-powered mining machinery, diesel engine fuel injectors and other equipment using air or liquid under high pressure are increasingly widespread in the mining industry. This brings increased risk of injuries such as the one described in the box which, although not common, are usually quite severe.

Last fall, an employee was operating a scissor lift in an underground service bay when he noticed a leak in a hydraulic hose. He lifted the hose with his right hand to determine the exact location of the pin hole leak and inadvertently placed his index finger over it. The hydraulic oil pierced his glove and punctured the skin of his finger. Despite immediate and long term treatment, the finger eventually had to be amputated.

The severity partially results from the tremendous forces involved. Under typical pressures, fluids can escape from nozzles or leaks at speeds approaching 300 meters/second, with a force of several thousand kilograms. The force is so great that it is not even necessary to touch the point of origin of the leak: severe injuries have been inflicted upon hands more than an inch away.

Early diagnosis is vital for effective treatment. The wound is usually about the size of a pinhead and may be missed, especially since there may be no pain or only a slight stinging. In several hours, however, as the swelling increases the pain becomes so intense that even opiates will not relieve it. If the nature of the injury is not recognized and the victim is sent away with only a simple dressing, gangrene will set in in 2 or 3 days and amputation will likely be the result. Even with early diagnosis and expert treatment, over 40% of victims require amputation and of the remainder, only a few regain normal hand function.

With treatment so ineffective, prevention becomes even more important. As the example demonstrates, gloves are of little use preventing such injuries. Safety goggles or glasses with impact-resistant lenses will, however, protect the eyes and should always be worn when working near high-pressure equipment.

Engineering controls are the most effective. Hoses should be secured in a manner to prevent them from over-flexing or rubbing on machinery. Wire-braided or other hoses specially designed to reduce the chance of rupture under high pressure should be used. Hoses should be changed regularly before they begin to wear.

Finally, anyone who might come into contact with high pressure hoses should be made aware of the consequences of checking for a leak with their hand! Let a trained mechanic find and repair it.

Incident Report From the Mines Accident Prevention Association of Ontario, October 1990

Safety reminder

Your most valuable, vulnerable tools

Losing a hand or a finger is no laughing matter. Our hands are our most valuable tools, used in almost every activity of our lives, both on and off the job. Yet because they are used so extensively, they are also vulnerable to injury. Last year, as in most years past, one out of five traumatic injuries in the mining industry was to the hands or fingers. This was exceeded, by a slight margin, only by injuries to the back.

Over half of these injuries were cuts or punctures - some quite serious, but most were less serious. In addition, of these cut/puncture injuries—more than dozen involved finger or hand amputation. Despite the technological miracles being performed by modern medicine, spare parts do not yet perform as well as the original equipment.

Most of you already know what to do (and not to do) to avoid losing or injuring your hands. The majority of serious injuries result from not following proper procedures or simply not paying enough attention to the job at hand. It is important to anticipate potential hand hazards before an accident happens. Look for possible unguarded pinch points. Inspect equipment and machinery for defects both before and after using it. Use the appropriate personal protective equipment for the task you are performing, but don't wear gloves, rings or loose clothing when working with moving machine parts. Always follow the lock-out procedures established by your company and do not remove guards from machinery except as part of the lock-out procedure.

If you follow these and other safety rules required for your specific job you will go a long way in avoiding injury. However, the most important rule to protect your hands is simple common sense: **Use your head before you use your hands!!!**

Courtesy of Mines Accident Prevention Association, Ontario, Canada.

Your hands - the most important tool of all.

by Douglas K. Martin, Arizona State Mine Inspector

A recent newsletter from the National Safety Council featured a lead story on hand injuries, noting the hand is the part of the body most likely to be injured.

As indicated by accident reports, hands suffer tragic crippling injuries in situations where the emphasis on safety would be least expected. Protective hand gear should always be worn, no matter how insignificant the job in question may be. For example, a mine worker lost 142 days of work as the result of a hand injury received when he was repairing a truck brake valve. It was certainly a simple job, but when the valve cover slipped, it fell on his unprotected hand, tearing away the skin, exposing the hand's 27 bones, 20 muscles and dozens of tendons and ligaments to injury, and resulting in serious damage.

The construction and mining work place is filled with dangerous areas and machinery where no one would ever think of putting his hand. Unfortunately, accidents occur because we cannot always control where our hands land. A miner tripped as he was climbing over a jumbo drill. As he fell, he reached out and grasped

the boom stop. The boom moved mangling his hand in the process. He has missed eight months of work, with no return to work date in sight, and no positive assurance he will ever regain the use of his hand.

It is an involuntary reflexive action of the body to reach out with the hands when falling. Just such reflex movements resulted in another severely crushed hand. This employee was raising a load with an air tugger. The tugger broke loose from its base and the worker's hand was caught between the tugger and the load. As the employee fell he grabbed the tugger lever. This action caused the gear between the load and the tugger to diminish even more, crushing his entire hand. The excruciating experience lasted for more than 15 minutes while fellow employees freed what remained of his hand.

Such accidents are prevalent throughout the industrial world. According to a National Safety Council report, the Ontario [Canada] mining industry in 1988 studied some 1,000 hand and finger injuries, over half of which were cuts or puncture wounds. The total included 70 broken bones and 20 amputations. Nearly all such incidents resulted in lost production time, as well. The Canadians noted one out of ten hand injuries resulted from misusing handtools and nearly four out of ten from improper handling of materials.

In reviewing accident reports, we find the leading causes of hand and finger injuries are: failure to follow safe operating procedures, using the wrong tool for the job, careless work habits, and failure to wear personal protective equipment. Our hands are our most important tools. The hand is a complex, sophisticated piece of engineering which combines strength, sensitivity and intricate dexterity. No other piece of work place equipment comes close to matching its irreplaceable abilities: I urge you to give your hand the protection and care such a splendid tool deserves.

Courtesy of Southwest Contractor, March 1990.

Help safety win, hands down!

"It isn't much fun to bowl when your hands hurt too much to pick up a ball."

"Kids are meant to be held with two hands. Don't deny yourself that pleasure."

Hands are usually the first part of your body to come in contact with agents (that cause skin problems) such as cleaners, solvents, and hundreds of other compounds used in industry.

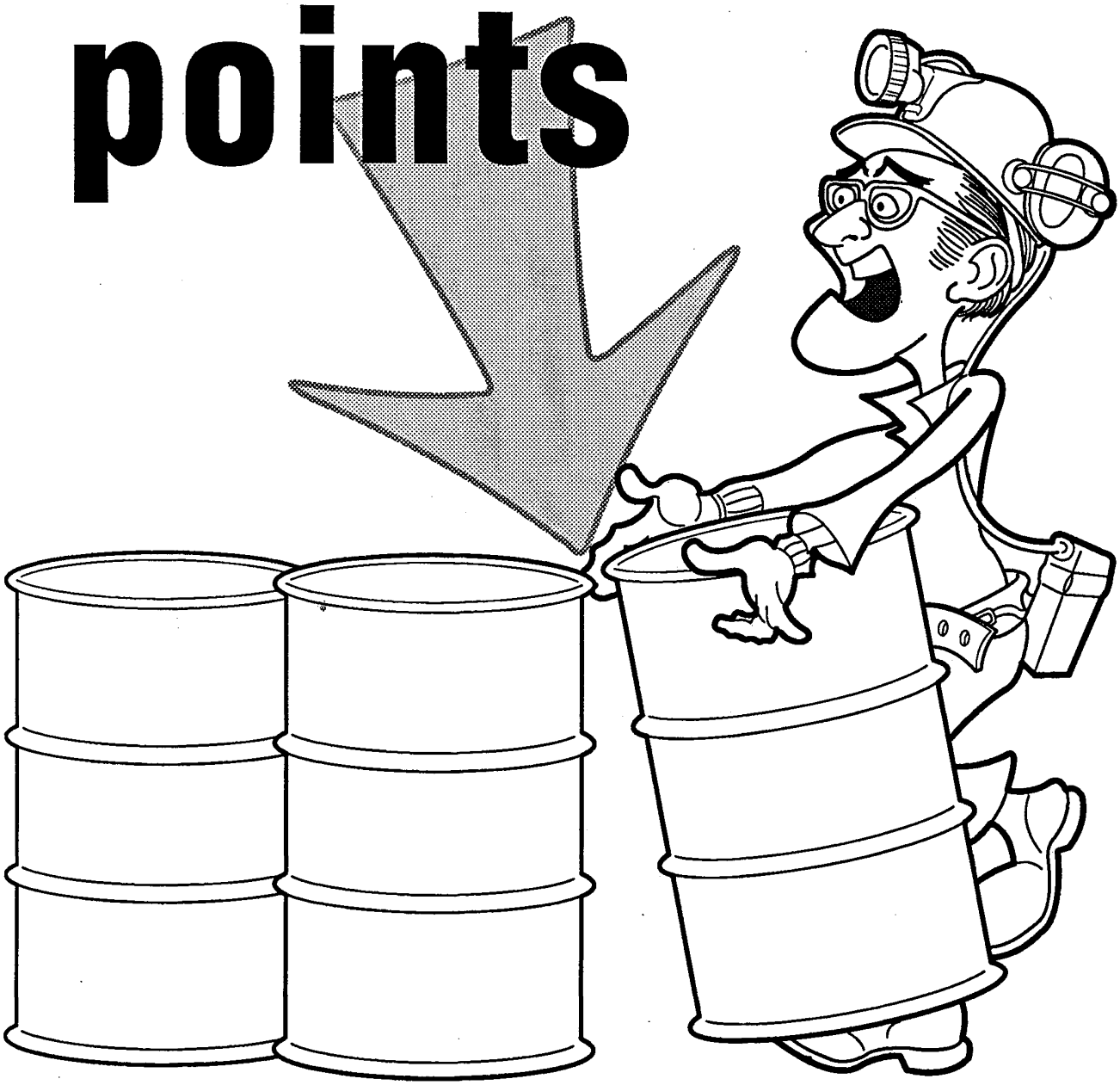
Creams protect—You can safeguard productivity and safety two ways: First, wear barrier creams and gloves or arm protectors. Second, use the right kind of barrier cream. Remember—creams are not a foolproof safeguard against skin irritants.

Gloves work even better—When you choose gloves, the first rule is to make sure they're designed for the job.
Inspect your work gloves regularly. Replace them if they're tattered or soiled. Threads that hang from torn gloves can get caught in machinery. Gloves soiled inside and out won't protect you from exposure to compounds that irritate the skin.

Anyone can remind you to wash your hands, wear clean gloves and use hand cream. But responsibility for hand safety is in **your** hands.

State of Nevada, Mine Safety Sense, December 1990.

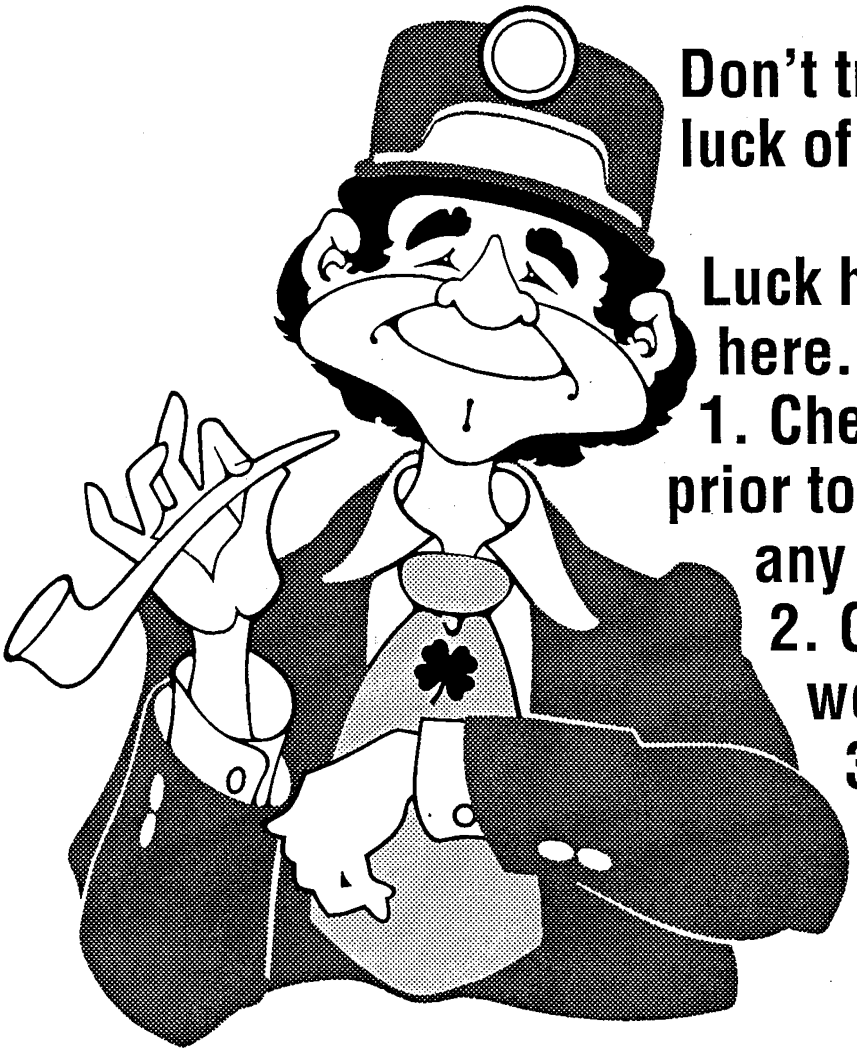
Watch for pinch points



By permission: Mines Accident Prevention Association Ontario, Canada

Roof Evaluation—Accident Prevention

REAP—a program developed to promote health and safety awareness in mining



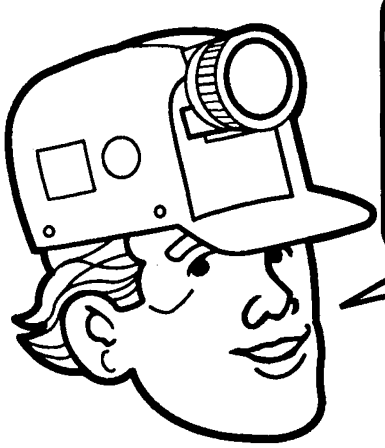
Don't trust in having the luck of the Irish...

Luck has no place down here... YOU are the key

1. Check roof and ribs prior to beginning work in any area.

2. Check frequently as work continues.

3. Correct conditions you find... you may be too late if you wait!

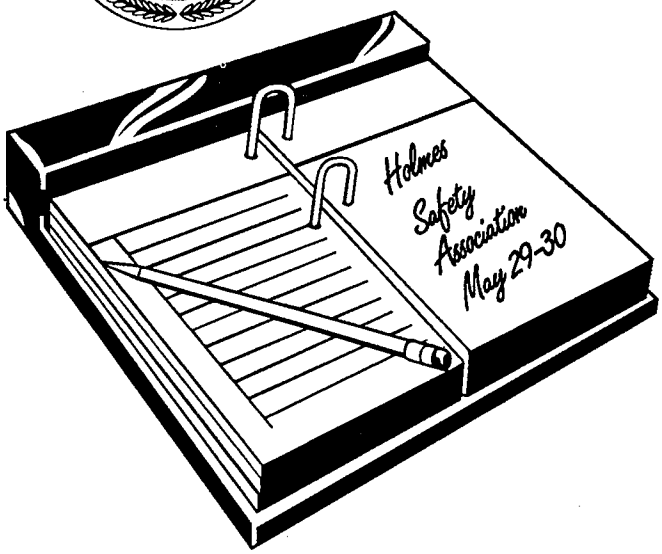


Be alert for dangerous roof! Make proper exams!

MINERS: Credit for this month's safety slogan goes to: Richard L. Hickman, Division Safety Supervisor, Cannelton Industries, Inc., Maple Meadow Mining Co., Fairdale, WV 25839. Please send your suggestions to: MSHA, Educational Policy & Development, 4015 Wilson Blvd., Graphics Room 523A, Arlington, VA 22203-1984. Phone: (703) 235-1400

March 1991

Mark your calendar



Holmes Safety Association
Joseph A. Holmes Safety Association

Annual Meetings

Pipestem Resort State Park
Pipestem, West Virginia

May 29-30, 1991

Plans have been finalized to hold the Holmes Safety Association National Council Annual Meeting at the *Pipestem Resort State Park, Pipestem, West Virginia,* on *May 29-30, 1991.*

Resort room rates are:

Single	$40.00*
Double	45.00*
Small suite, single	52.00*
Small suite, double	57.00*
2-room suite, single	57.00*
2-room suite, double	62.00*
Large suite, single	66.00*
Large suite, double	72.00*

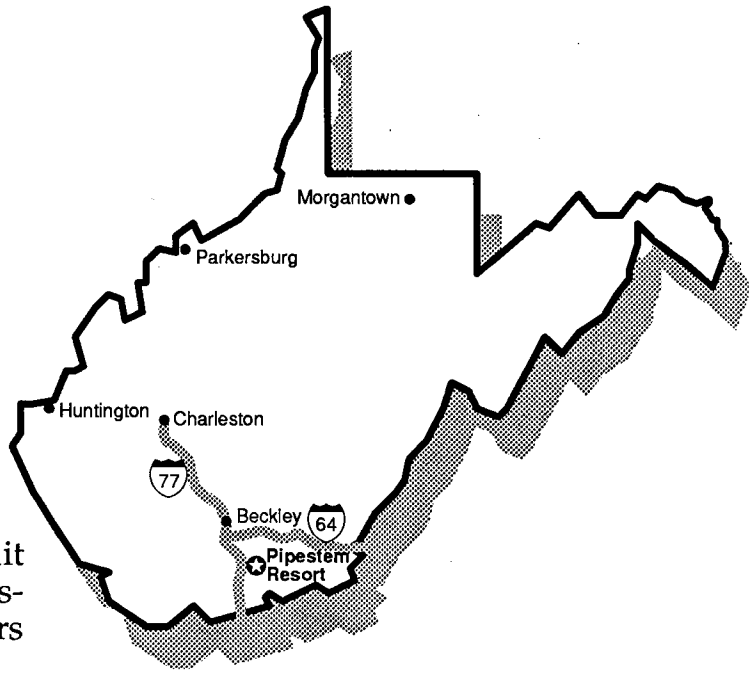
* Plus 9% state tax

Extra person in room – $6.00/night

Pipestem Resort accepts most major credit cards including American Express, Mastercard and Visa. It *does not* accept Diners Club.

Reservations must be made prior to April 29 and a deposit of the first night's lodging is required.

For reservations call toll free: 1-800-225-5982. Be sure to state that you are with the Holmes Safety Association.



West Virginia

America's best kept secret!

Holmes Safety Association National Meeting May 29-30 Pipestem State Resort Park, West Virginia

Here is a look at the tentative agenda for the two day meeting:

May 29 Wednesday	9:00 AM - 4:30 PM	Registration
	5:30 PM - 7:00 PM	Barbecue Cook-out featuring Steamship Round, Chicken and all the trimmings.
	7:30 PM - 9:00 PM	Executive Committee Meeting of the Holmes Safety Association.
May 30	8:00 AM - 12:00 PM	Golf tournament
	9:00 AM - 10:30 AM	Continental Breakfast and Video review of last year's meeting.
	1:00 PM - 1:30 PM	Joseph A. Holmes Board of Directors
	1:45 PM - 3:00 PM	National Council Meeting of HSA
	3:15 PM - 4:00 PM	National Meeting of JAHSA
	5:30 PM - 8:00 PM	Awards Banquet

Remember that we will be discussing revisions to the Constitution and Bylaws at this year's meeting. Please make every effort to be present. Let's be ready to plan for the future of this most worthwhile association.

A registration fee of $24.00 will cover the cost of the banquet and continental breakfast. Only those holding meeting registrations will be admitted to the Barbecue Cook-out on Wednesday evening. Please make your check payable to *National Holmes Safety Association.* You may register for the meeting by completing the following form:

Name ______________________ Telephone (____)____-______

Address ______________________ Number of tickets ______

______________________ Amount enclosed ______

______________________ Date mailed ______

Return to: Don Farley, Holmes Safety Association
c/o MSHA – Academy
P. 0. Box 1166
Beckley, WV 25802-1166

Communications

Throughout our lives we rely on communication to express ourselves, exchange ideas, and give directions. Although we often take it for granted, effective communication is one of the primary keys to safety, and mine safety depends on communicating effectively. Communication underground may be face-to-face, by telephone, cap lamp, etc. No matter what method is used, clear and precise communication is important to ensure the safety of all mine personnel.

Communication systems

All operators must provide telephone service or an equivalent two-way communication system. This system must be maintained between the surface, each landing of main shafts and slopes, and between the surface and each working section of all coal mines that are more than 100 feet from the portal.

Telephone, or two-way communication systems, must be located within 500 feet of all main portals. A responsible person must always be on duty when men are underground and must be able to hear the system and respond immediately in the event of an emergency.

Working sections

Telephone, or two-way communication systems, provided on each working section must be located no more than 500 feet outby the last open crosscut and no more than 800 feet from the farthest point of coal extraction in the working place of each section.

The incoming communication signal must activate an audible alarm, or a visual alarm that can be seen by a miner regularly employed on the section.

Communication systems must be maintained in good operating condition. If a failure or disruption of the communication system occurs, repairs must be started immediately, and the system restored to operational condition as soon as possible.

Emergency communications

All operators of underground coal mines must establish and maintain a communication system from the mine to the nearest point of emergency transportation and medical assistance.

Identification check system

Each operator of an underground coal mine should establish a check-in and check-out system that will provide an accurate identification record of all persons in the mine. Such record must have a number identical to an identification tag that is fastened on the belt worn by the miner while underground. The check-in/check-out system must be located on the surface in an area that will minimize the danger of destruction by fire or other hazards.

Safety tips

☐ Verbal communication between supervisory personnel, and employees, by telephone or face-to-face should be clear and precise. All miners should be able to both **send** and **receive** verbal communications.

☐ All miners should read and obey warning signs posted on the surface and throughout the mine.

☐ All miners should be able to send and receive signals by cap light.

☐ During shift changes, incoming crews should be informed by outgoing crews of any changes in mining conditions.

☐ Equipment operators should inform incoming operators of any problems associated with their equipment.

☐ No miner will be assigned, or be required to perform work alone, in areas where hazardous conditions would endanger his/her safety. Supervisors must make regular checks on every miner during each shift.

Communication safety quiz

True or false

1. *Clear and precise communication is important to ensure the safety of all miners.*
2. *Communication systems must be located within 500 feet of all main portals.*
3. *While miners are underground, a responsible person must always be on duty and be able to hear the communication system and respond immediately.*
4. *Communication systems must be maintained in good operating condition at all times.*
5. *If a failure of the communication system occurs, repairs must be started immediately and communications restored as soon as possible.*
6. *All miners must use the check-in, check-out system established at their mine site.*
7. *Incoming communication signals must activate an audible alarm, or a visual alarm that can be seen by a miner employed on the section.*
8. *Equipment operators should inform incoming operators of any problems associated with their equipment.*
9. *Miners should read and obey all warning labels and warning signs on materials or equipment used at the mine.*
10. *All miners should be able to send and receive signals by cap light.*

Remember, it takes *two* to communicate.

From ***Topic-of-the-Month****, Virginia Department of Mines, Minerals and Energy, Mine Safety Program, September 1990*

Your brain: the most important piece of equipment on the job

Chemical additives *not* recommended!

The following is a list of chemical additives not recommended for this piece of equipment. Use of these additives is at the owner's risk and may result in loss of performance or damage to the equipment. The manufacturer claims no responsibility for resulting damage.

Stimulants: (brand names - "cocaine," "amphetamines")

Use of these chemicals will cause the brain to speed up. At first glance, this appears to improve the performance of the equipment. However, the equipment was not designed to operate at this speed. A short burst of high performance is usually followed by an extended period of inferior performance (rebound depression). Large amounts can cause severe bio-electrical malfunctions such as convulsions. Long term use of these additives will eventually require a complete systems overhaul (drug rehabilitation).

Narcotics: (brand names - "heroin," "morphine," "codeine," "opium," and others)

Use of these chemicals will cause the brain to slow down. Equipment responsiveness, decision-making ability and coordination are all impaired. Lowered operating speed and poor responsiveness is responsible for inferior equipment performance. Large amounts of these chemicals may cause a complete and irreversible systems shut-down, after which the equipment must be scrapped. Long term use of these additives will eventually require a complete systems overhaul (drug rehabilitation).

Depressants: (brand names - "alcohol," "barbiturates," "tranquilizers")

Use of these chemicals will cause effects similar to those of Narcotics. Equipment speed and efficiency is reduced. In addition, long term habitual use has an additional danger—when the long term use is suddenly stopped, there is a rebound reaction. Slow reactions suddenly become fast and erratic. This may result in severe bio-electrical malfunctioning (convulsions) which may be severe enough to cause permanent and irreparable damage or a complete systems shut-down.

Cannabis: (brand names - "marijuana," "hashish")

This is an unusual additive in that all of it's ingredients have not been fully identified or studied. The component that appears to effect the brain the most is "THC". This compound appears to distort the brain's ability to process information. Judgement of time and distance become impaired. Accurately processed information is vital to the efficient operation of the brain and the entire body. Use of this additive reduces equipment efficiency. Long term use of the additive appears to dampen or inhibit motivation. Use of large amounts may cause severe impairment in the brain's ability to process information (hallucinations).

Hallucinogens: (brand names - "LSD," "PCP," "DMT," "MDA," "STP," and others)

Use of these additives severely distorts the brain's ability to process information. The brain's primary function is to accurately proces information. Use of these additives totally compromises the brains performance. Use of large amounts of these additives may cause severe bio-electrical malfunction (convulsions).

Deliriant: (brand names - "petroleum distillates," "gasoline," "freon," and others)

Use of these additives causes many effects in the brain, none of which improve efficiency. Use may also be quite physically damaging to the equipment. The damage ranges from mild to severe enough to cause a permanent system shut-down (death).

None of the above chemical additives (with the limited exception of alcohol and prescription medications) are regulated with regards to their contents or purity. Use of such additives is at the owner's risk. Finally, when at work, when the brain is required to be at peak performance levels, *DON'T USE!*

March 1991

Laughing gas is no laughing matter

It has been reported that the "recreational" use of amyl nitrite and nitrous oxide (laughing gas) is on the rise. Mining and other industrial personnel must be made aware of the hazards associated with the use of these substances. Their use can be fatal.

A 30-year-old cement plant lab technician was found dead of suffocation 1-1/2 hours after he reported for work on the night shift. Medical tests indicated his blood alcohol content was at the intoxification level. Apparently, to add to his "high," the man connected a make shift mask and hose to the nitrous oxide piping of the plant's atomic absorption testing unit. He then began breathing nearly pure laughing gas.

The technician, who had six years of mining experience including four years with the analytical laboratory, was seemingly aware of the gas's ability to replace the oxygen in his body with nitrogen.

Laughing gas has been around at least two hundred years and is used primarily as an anesthetic by dentists and oral surgeons. It also is an oxidizer used in testing equipment. The colorless, sweet smelling gas produces giddiness, a dreamy or floating sensation and a mild pain free state. Used improperly, it can cause brain damage and suffocation from lack of oxygen. If used directly from the tank, the gas can freeze the lips and throat, and the high pressure can rupture blood vessels in the lungs. Careless use can also cause nausea, vomiting and disorientation.

Amyl nitrite is a valuable medical tool when used properly. It was developed over 100 years ago to aid patients suffering from angina pectoris (a painful heart condition) and is stocked today in many first aid kits at mining/leaching operations that use cyanide.

This chemical acts as a short-term heart stimulant and vasodilator. It dilates or widens blood vessels in the body. When inhaled, amyl nitrite triggers an almost immediate acceleration in heart rate and drop in blood pressure while at the same time shutting off oxygen to the inner brain. This is an essential treatment for someone suffering from cyanide poisoning.

The amyl nitrite effects of sudden intense weakness and dizzy sensation, lasting 30 to 60, seconds is used as a quick "high" by abusers. Douglas K. Martin, Arizona State Mine Inspector, cautions all cyanide leaching operations to check the contents of their first aid emergency kits for missing amyl nitrite ampules. He also emphasizes "The first aid administrator must be trained in the application of this substance. If inadvertently inhaled, the person giving the aid may be rendered useless and unable to care for his patient."

Over use or abuse of amyl nitrite can result in a feeling of pressure behind the eyes and a severe throbbing headache. Other common side effects include nausea, vomiting and faintness or even blackout. Frequent or long-term use can cause glaucoma.

Nitrites increase pressure in the nerves and blood vessels in the eyes. Also, nitrites damage red blood cells and may cause an often fatal anemia in which blood can no longer transport oxygen. Finally, recent research indicates nitrites may impair the immune system and allow development of a form of cancer (Kaposi's sarcoma) often seen in victims of AIDS.

How stressful is mining?

Miners face the most stress of any occupation according to a recent study. That's a surprise to many, we're sure, but not to those who risk their lives that we may have a higher standard of living. What used to be luxuries for a few, are now the comforts of life for a majority of us.

Researchers studied 150 different job classifications. Following are the 12 most stressful occupations stressful occupations according to the study results:

	Stress quotient
1. Miner	8.3
2. Policeman	7.7
3. Pilot	7.5
4. Prison guard	7.5
5. Construction worker	7.5
6. Journalist	7.5
7. Dentist	7.3
8. Advertising employee	7.3
9. Actor	7.2
10. Politician	7.0
11. Physician	6.8
12. Tax collector	6.8

Reprinted from Nevada Mine Safety Sense, *August-October, 1989.*

Housekeeping

A clean workplace can mean a safe workplace

One of the top contributors to a high incidence of accidents is a lack of adequate housekeeping.

If you suspect that housekeeping may be a factor in accidents, injuries, or property damage occurrences in your facility, consider an evaluation of your housekeeping practices. This can be accomplished by physically inspecting the facility, identifying congestion or problem areas, assessing storage practices, and reviewing accident reports..

Management's full support of good housekeeping can be aided by the following activities:

1. Appoint special clean up personnel.
2. Inform the plant safety committee of its responsibility for housekeeping inspections.
3. Clean machinery and equipment after each shift and keep it reasonably clean during operation.
4. Place trash in proper bins for easy removal.
5. Keep floors, aisles, and working surfaces clean and unobstructed.
6. Store materials properly.
7. Keep tools in their proper place.
8. Clean up spills immediately.
9. Empty trash regularly.
10. Periodically clean out of the way places such as roofs, overhead beams, shelves, ledges, yards, outbuildings, basements, and boiler rooms.

Remember, an effective housekeeping program is a planned offensive, and is not characterized by an occasional "ground" clean up, but rather a planned conscious activity. Good housekeeping is good for employees and good for business.

Reprinted from "Miner Details", Kansas small mine safety training newsletter, December 1990.

Holmes Safety Association Monthly Safety Topic

Fatal roof fall accident

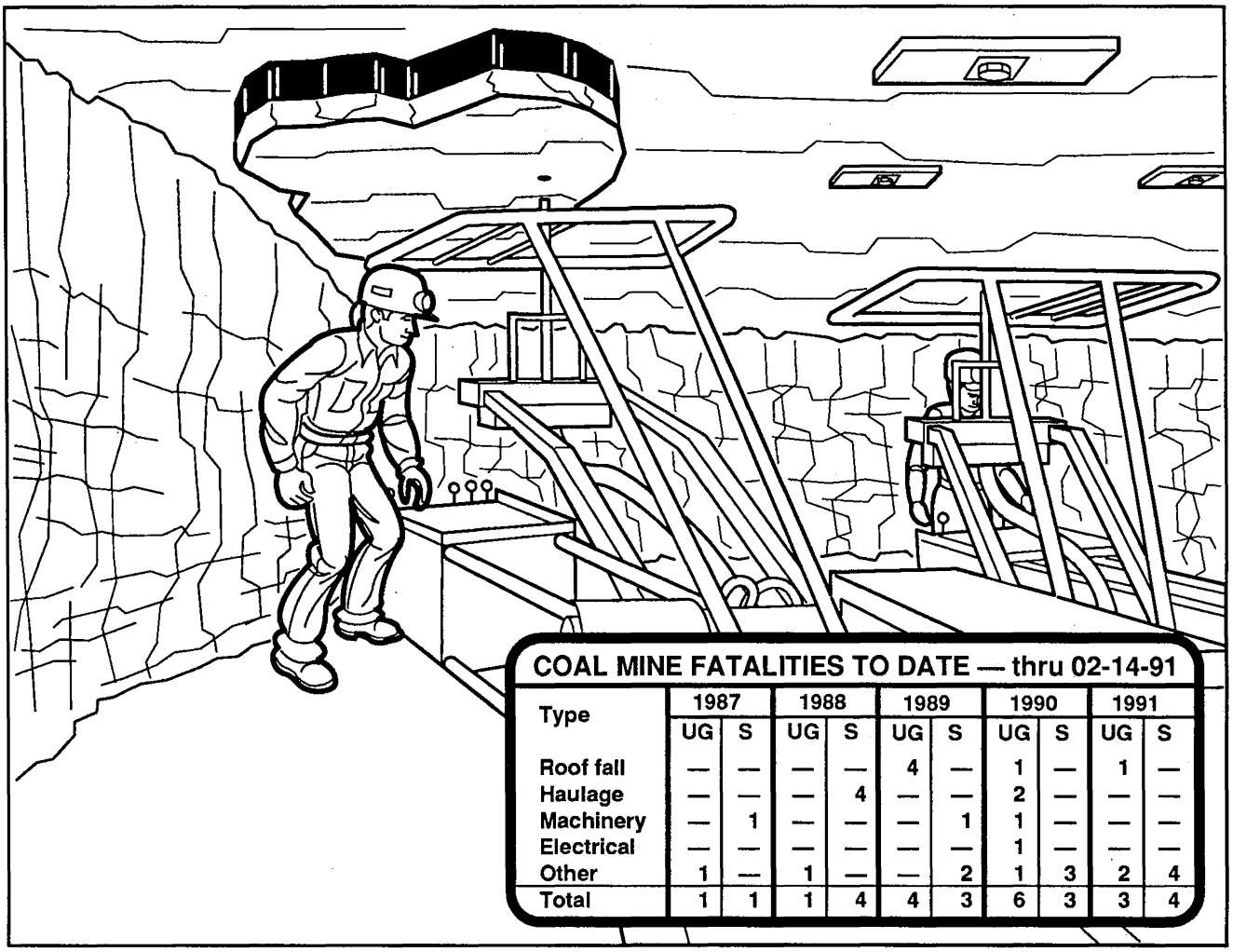
GENERAL INFORMATION: A 44 year-old roof bolter with 15 years of mining experience was killed in a fatal fall of roof accident.

The mine produces an average of 650 tons per day with one continuous miner section working one shift per day, 5 days per week. The total number of employees is 20 with 13 classified as underground and 7 surface. The coal seam has an average height of 60 inches. Mine entries and crosscuts are driven 20 feet wide. Roof control utilizes a resin bolt system with bolts installed on 5 foot lengthwise centers and 4-1/2 foot crosswise centers, four bolts to a row. The area where the accident occurred, was conducting full pillar recovery using an "entry-split and fender" method. Pillar blocks, which have been developed on 65 foot centers, are split from the entry and parallel to the crosscuts. The remaining fenders are then removed by subsequent miner lifts.

DESCRIPTION OF ACCIDENT: The day shift for the South Mains Section entered the mine at the usual starting time of 7:00 a.m. The crew, supervised by the mine foreman, proceeded to the section, arriving at about 7:20 a.m. The mine foreman conducted a safety meeting and instructed the crew to mine nos. 65 and 66 pillar blocks. The first cut of the primary split was mined from the no. 65 block; the continuous miner then moved to no. 66 block. The roof-bolting machine began bolting the unsupported cut in no. 65 block, as the first cut of the primary split was being mined from the no. 66 block. At this time, the mine foreman received a call instructing him to come outside in order to accompany a MSHA coal mine inspector underground. The mine foreman notified the electrician (a certified mine foreman) that he was going outside. He arrived outside at approximately 9:00 a.m., escorted the MSHA inspector to the No. 2 belt drive, and then returned outside.

During this period of time, the first cut in No. 65 block was roof bolted. The first cut in the No. 66 block was completed, and a second cut mined in No. 65 block. The continuous miner was then repositioned to remove the second cut in the No. 66 block, as the roof-bolting crew prepared to support the second cut removed from the No. 65 block.

The two-man roof bolting crew, consisting of the operator and his assistant (the victim), positioned the twin-boom roof-bolting machine in the cut in the No. 65 block. The operator was operating the right side drill head and the victim was operating the left side drill head. They installed the outside (rib line) roof bolts in the first row and swung the drill heads inward to install the two inside roof bolts. At approximately 10:45 a.m., as the operator was drilling the second roof-bolt hole, he heard a rock fall. He turned and saw the victim pinned between the rock and drill boom. He ran around the rear of the roof-bolting machine and saw that the victim had pushed himself clear of the rock and had fallen to the mine floor with his head toward the rib. The operator



COAL MINE FATALITIES TO DATE — thru 02-14-91

Type	1987		1988		1989		1990		1991	
	UG	S	UG	S	UG	S	UG	S	UG	S
Roof fall	—	—	—	—	4	—	1	—	1	—
Haulage	—	—	—	4	—	—	2	—	—	—
Machinery	—	1	—	—	—	1	1	—	—	—
Electrical	—	—	—	—	—	—	1	—	—	—
Other	1	—	1	—	—	2	1	3	2	4
Total	1	1	1	4	4	3	6	3	3	4

stated that the fallen rock was resting against the drill boom, at an angle toward the left rib line where the victim had fallen. He yelled for help and noticed that the rock was positioned where it could slide and hit the victim again. He dropped the ATRS T-bar, backed the roof-bolting machine a short distance, and sumped-in the ATRS T-bar until it was underneath the rock. The operator raised the ATRS T-bar and flipped the rock over and inby the ATRS.

The foreman, who had just returned to the section from outside, was told that there had been an accident. He and crew members rendered first aid and administered CPR to the victim as he was transported to the surface. The emergency squad transported the victim to the hospital, where he died.

CONCLUSION: The accident and resultant fatality occurred because an undetected loose piece of cap rock fell, between the outby edge of the ATRS and the canopy over the drill controls, just inby the last row of roof bolts, striking the victim as he was changing drill steels. Contributing factors could have been that, (1) according to testimony, sound and vibration tests were not conducted prior to roof bolting; (2) a smaller than required canopy was provided over the drill controls; and (3) a slip, present in the mine roof outby the row of bolts being installed, was not supported with boards which would have provided additional bearing surface against the roof.

First aid

Shock: causes, signs, and treatment

Shock is a condition which causes many of the vital body organs to be in a depressed state. Shock can be life threatening even if the injuries may not otherwise be fatal. A traumatic injury, with loss of blood, can trigger the cardiovascular system to collapse. As a result of the collapse, the insufficient blood flow prevents nourishment and oxygen from reaching all parts of the body. The body processes slow down, circulation is reduced, and the cells of the brain, heart, and lungs begin to die.

The body requires three factors to fight off the effects of shock; a functioning heart; an adequate amount of blood; and a circulatory system which is intact. When tissues or organs are inadequately supplied with oxygenated blood, shock occurs.

A first aider needs to be especially alert for the signs that indicate a life threatening condition, because some degree of shock occurs with every injury or illness. The first hour after a severe injury is the most important as the body attempts to correct the effects of the damage.

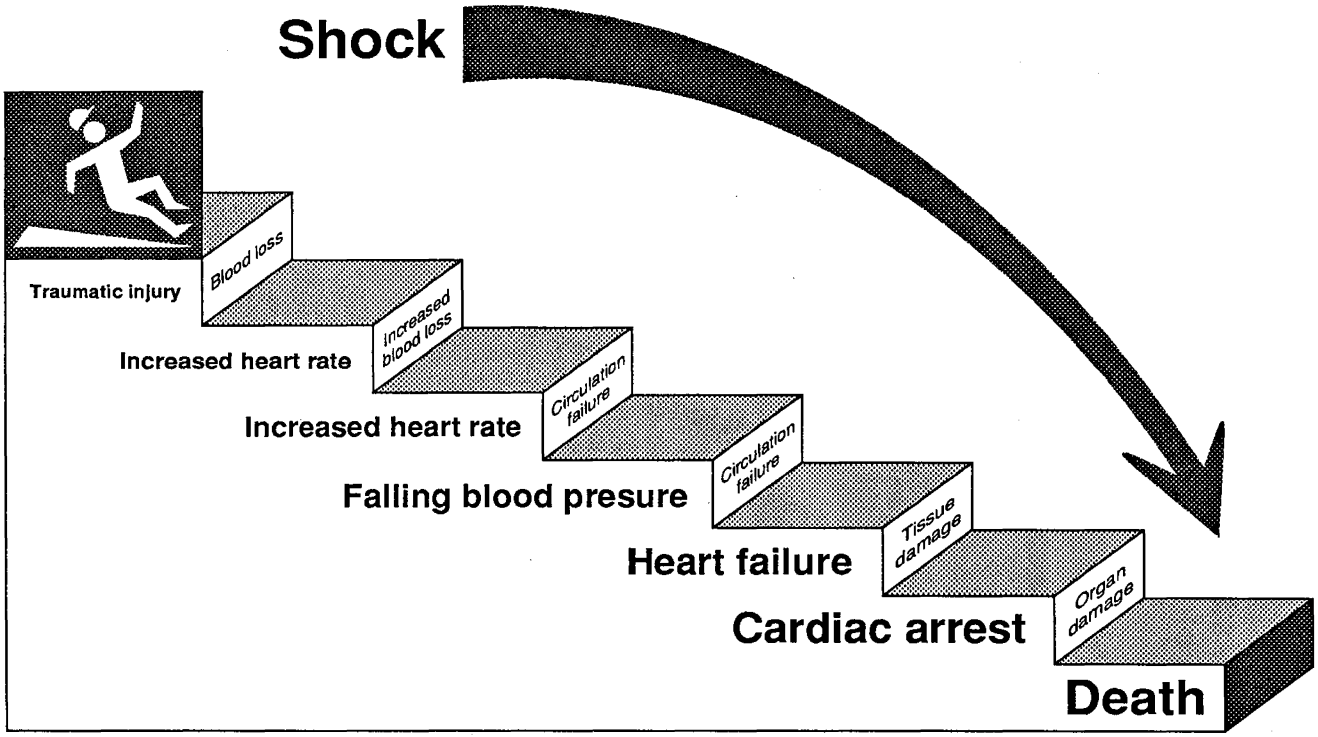
Causes of shock

Shock can develop rapidly, or shock may be delayed for several hours after the incident that caused it. There are several major causes:

- ☐ severe or extensive injuries
- ☐ severe pain
- ☐ loss of blood
- ☐ severe burns
- ☐ electrical shock
- ☐ certain illnesses
- ☐ allergic reactions
- ☐ poison inhaled, ingested, or injected
- ☐ exposures to heat and cold
- ☐ emotional stress
- ☐ substance abuse

Signs of shock

The most critical reaction that occurs with shock is a decided drop in normal blood flow. This is believed to be caused by the



by the involuntary nervous system losing control over certain small blood vessels in the abdominal cavity. Be alert for the vital signs that could indicate a worker's body is "closing down."

- ☐ dazed, confused look
- ☐ paleness, ashen skin
- ☐ nausea and vomiting
- ☐ thirst
- ☐ weakness
- ☐ weak, rapid pulse
- ☐ cold, clammy skin
- ☐ shallow, irregular, labored breathing
- ☐ pupils dilated
- ☐ eyes dull and lackluster

First aid treatment

Always maintain an open airway, ensure adequate breathing, and control any bleeding.

☐ Keep the victim lying down, if possible. Elevate the extremities if it does not aggravate the injury. Make sure the head is at least level with the body. Raise the head and shoulders if a head injury, sunstroke, heart attack, stroke, or possible spinal damage. If in doubt, keep victim flat.

☐ Provide victim with plenty of fresh air.

☐ Loosen any tight clothing (neck, chest, and waist) to make breathing and circulation easier.

☐ Handle the victim as gently as possible and minimize movement.

☐ Keep victim warm and dry with blankets or available material. Place coverings under the victim to prevent loss of body heat. Maintain as near body temperature as possible. (Do not add heat)

☐ Do not give victim anything by mouth.

☐ Keep victim calm and reassured. Never talk to the victim about the injuries.

☐ Keep onlookers away from victim.

Remember, some degree of shock will occur with every injury. First aiders need to *always* treat for shock. Also, think about treating bystanders, family members, fellow workers and yourself.

Once shock occurs it cannot be reversed, but proper first aid can help prevent it from worsening until emergency medical service arrives.

Courtesy of: North Carolina Department of Labor, Mine and Quarry Division, November 1990.

Health and safety quiz

It's a cold day. A light mist of fog is in the air. While leaving work you notice it is slightly slippery underfoot. As you enter the roadway the tires spin slightly before gaining traction. As you approach the entrance to work, you observe a vehicle attempting to stop while turning into the entrance. The vehicle bounces off an electrical power pole and strikes a person who is walking knocking them about 20 feet. The person lands face down. The vehicle comes to rest against another parked vehicle. The power pole falls.

1. What do you do?
a. Go to the aid of the person hit.
b. Go to check the driver.
c. Drive to the nearest phone and report the accident.
d. Make sure it's safe before proceeding.

2. Which of the people do you think has the most serious injury?
a. Vehicle driver.
b. Person struck.
c. Mail delivery person.
d. Security guard.

3. When you get to the victim, what is the first thing you do?
a. Open the door and ask the driver, "didn't you see them?"
b. Gently shake the person struck and ask, "are you ok, can you hear me?"
c. Drive back to the accident and see if anyone is helping.
d. Turn the person struck over so you can see them.

4. Using the answer from number 3, what would you do next?
a. Question the drivers ability to see.
b. Attempt to determine if the person struck is breathing.
c. Check with those helping to see what needs to be done.
d. See if the person struck can stand up and move.

5. While checking the victim, and listening, you hear gurgling sounds when they breath and notice a watery fluid with blood draining from the right ear. What type of injuries would you suspect?
a. Face and head.
b. Face and neck.
c. Head and chest.
d. Chest and nose.

6. What would be your next action?
a. Attempt to move the victim as a unit.
b. Attempt to open the victim's airway.
c. Ask them to sit up.
d. A and C.

7. What further action would you want to take?
a. Look for additional injuries.
b. Stop the bleeding from the ear.
c. Cover the victim and keep them warm.
d. A and C.

8. After completing your initial survey, where would you take a pulse?
a. Wrist.
b. Brachial.
c. Temporal.
d. Carotid.

9. After taking the pulse, you notice breathing has stopped What would you do?
a. Reposition the head.
b. Use the Heimlich maneuver.
c. Call for help.
d. Ventilate with puffs.

10. The ventilation cycle for an adult is?
a. 8 to 10 breaths a minute.
b. 12 to 14 breaths a minute.
c. 18 to 20 breaths a minute.
d. 24 to 30 breaths a minute.

11. A person coming to work, unaware of the accident, touches the fence that surrounds the work place. Unknown to anyone at the accident site, one of the electrical lines is entangled in the fence and the fence is energized. What would you do for this person.
a. Grab them and pull them from the fence.
b. Determine if the line could be de-energized.
c. Find something non-conductive and attempt to separate the person from the fence.
d. Nothing, because there is nothing that can be done.

12. You successfully separate the person from the fence, and you have done your initial survey. There is no breathing and no detectable pulse. You decide to do CPR, what is the ratio of compressions to breaths?
a. 15 compressions to 1 breath.
b. 15 compressions to 2 breaths.
c. 5 compressions to 1 breath.
d. 9 compressions to 2 breaths.

13. After starting CPR, how often do you check for pulse and/or breathing?
a. After the first minute.
b. After each set of compressions.
c. After every other set of compressions.
d. After doing CPR for several minutes.

14. When administering first aid, what is the most important part?
a. Treat as many victims as possible.
b. Make sure that someone notifies the next of kin.
c. Remain calm and use common sense.
d. Become well trained in accidents.

15. How often should you be required to receive first aid training?
a. Every month.
b. Every safety meeting.
c. Every six months.
d. Every year.

Prepared by South Dakota Department of Health, Mine Safety Program, December 1990.

Answers:
1. d 2. b 3. b 4. b 5. c 6. b 7. d 8. d 9. a 10. b 11. b 12. b 13. a 14. c 15. d

The Last Word...

"Never argue with a fool. Listeners can't tell which is which."

"Diplomacy: The art of jumping into troubled water without making a splash."

"The first thing a child learns when he gets a drum is that he is never going to get another one."

"There was an old woman who lived in a shoe, she had so many children she ran out of names to call her husband."

"I'd move heaven and earth to break 100," said the golfer as he banged away in a sand trap. "Try heaven," advised the partner, "I think you've already moved enough earth."

"Often the difference between a successful person and a failure is which one got tired first."

"Retirement is when you look at a project you've put off for years and say, "I'd sure like to sink my teeth into that!" And your spouse says, "Wait, I'll go get them."

"Opportunity is like a dial tone. It's there. All it requires is a little push."

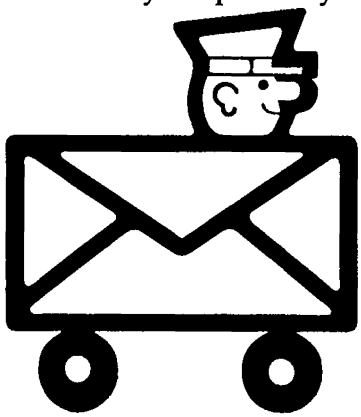
"One advantage of letting your conscience be your guide is you won't run into any heavy traffic."

NOTICE: We will welcome any materials that you submit to the Holmes Safety Bulletin. We cannot guarantee that they will be published, but if they are, we will list the contributor(s). Please let us know what you would like to see more of, or less of in the Bulletin.

REMINDER: The District Council Safety Competition for 1990 is underway – please remember that if you are participating this year, you need to mail you quarterly report to:

Mine Safety & Health Administration
Educational Policy and Development
Holmes Safety Bulletin
4015 Wilson Boulevard, Room 531
Arlington, Virginia 22203-1984

Phone: (703) 235-1400



Holmes Safety Association
Officers and Executive Committee
1990-1991

Officer	*Name*	*State*	*Representing*
President	**Joe Main**	**DC**	**Labor**
First Vice President	**Ron Keaton**	**WV**	**Federal**
Second Vice President	**Thomas Ward**	**PA**	**State**
Third Vice President	**Dick Machesky**	**PA**	**Management**
Fourth Vice President	**Joseph Forte**	**PA**	**Supplier**
Secretary-Treasurer	**Don Farley**	**WV**	**Federal**

Member	*Representing*	*From*	*State*	*Title*
Bart Lay, Jr.	State	WV Department of Energy	WV	Director of Safety
Alex Bacho	Federal	Bureau of Mines	DC	Chief, Mine Tech.
William Garay	State	Pa. Dept. of Deep Mine Safety	PA	Mine Inspector
Ellsworth Bengry	Federal	MSHA, Coal Mine H & S	OH	Training Specialist
J.D. Breedon	Federal	MSHA, Coal Mine H & S	PA	District Manager
Vernon Demich, Sr.	Labor	UMWA	PA	Safety committeeman
Maurice Childers	Federal	MSHA, Coal Mine S & H	IN	District Manager
James Clem	Management	Peabody Coal Company	KY	Vice President
Adele Abrams	Association	National Stone Association	DC	Director, Govt. Affairs
Donald Conrad	Federal	MSHA, Pa. Bit. Safety Council	PA	Secretary
John DeMichiei	Federal	MSHA	VA	Special Assistant
Lonnie Gore	Management	Marrowbone Dev. Corp.	WV	Safety Supervisor
Richard Flack	Management	R & P Coal Company	WV	Senior Safety Inspector
Ford B. Ford	Federal	MS & H Review Commission	DC	Chairman
Richard Burns	Management	Old Ben Coal Company	IN	Safety Inspector
Henderson Grigley	State	Ohio Division of Mines	OH	Deputy Director
James Adkins	Management	Cannelton Industries	WV	Safety Director
Jeff Duncan	Labor	UMWA	PA	S & H Representative
Thomas Rabbitt	Labor	UMWA	PA	S & H Representative
Donald Lilley	Management	Darmac Associates	PA	Safety Director
Douglas K. Martin	State	Dept. of Mine Inspection	AZ	Mine Inspector
Ivan Moreton	Management	Inland Steel Coal Company	IL	Safety Director
Robert Nelson	Federal	MSHA, Coal Mine H & S	PA	Supervisory Inspector
Bob Scaramozzino	Labor	UMWA	DC	Deputy Administrator
Irmadell Pugh	Federal	MSHA, Coal Mine H & S	WV	Program Analyst
Rick Radakovich	Management	R & P Coal Company	PA	Supervisor of Tng.
Joseph Sbaffoni	State	Dept. of Envir. Resources	PA	Chief
Walter Schell	Federal	MSHA, Coal Mine H & S	CO	Training Supervisor
John B. Shutack	Federal	MSHA, Coal Mine H & S	PA	District Manager
Harry Tuggle	Labor	U.S.W.A.	PA	S & H Technician
Ival Van Horne	Federal	MSHA, Coal Mine H & S	CO	Training Specialist
Joe Vendetti	Management	Carbon County Coal	WY	Safety Director
Robert L. Vines	Association	Bit. Coal Operators Association	DC	Safety Director
Joseph Williams	State	Illinois Dept. of Mines/Minerals	IL	Inspector
David Hazlett	—	Loss control representative	PA	Retired
Charles Jones	—	MSHA, Coal Mine H & S	PA	Retired
James Krese	—	MSHA, Coal Mine H & S	WV	Retired
Harry Thompson	—	MSHA, Coal Mine H & S	PA	Retired
Michael P. Trainor	—	MSHA, Metal/Nonmetal	PA	Retired
Robert Vargo	—	National Mine Service	PA	Retired

Joseph A. Holmes Safety Association
Awards 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.

For information contact: Secretary-Treasurer, Joseph A. Holmes Safety Association (304) 256-3245