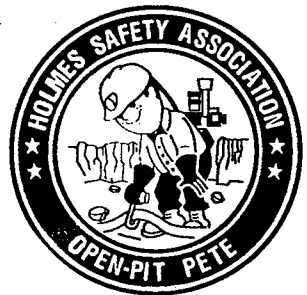

BULLETIN



January 1991



January 1991

Table of contents

	<i>Page</i>
Topic—"Welcome new members"	2
Announcement—"Results of Bulletin questionnaire"	5
Accident summary—"Fatal roof fall accident"	6
Safety topic—"Front end loader safety"	8
Announcement—"JSA Day in the mining industry"	10
Topic—"Coal fatalities dip as others rise"	12
Poster—"Check equipment before each shift"	13
Poster—"R.E.A.P."	14
Topic—"Ideas for safety talks"	17
Safety topic—"Blasting safety"	19
Accident summary—"Fatal electrical accident"	20
Safety topic—"First aid"	22
Safety topic—"Hearing protectors offer benefits"	25
Topic—"The last word..."	28

Please note: The views and conclusions expressed in HSA Bulletin articles are those of the author and should not be interpreted as representing official policy of the Mine Safety and Health Administration.

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

NAME	CHAPTER NO.	LOCATION
Birdsell Sand & Gravel	10002	Oral, SD
Dakota Granite	10003	Milbank, SD
Texas Utilities Mining Company (Martin Lake)	10004	Tatum, TX
Staker Paving & Const. Company	10005	N. Salt Lake, UT
Savage Mining Inc. (No. 2 Mine)	10006	Grundy, VA
Worn Coal Company Corporation	10007	Honaker, VA
P. A. Coal Company, Inc. (No. 3 Mine)	10008	Jewell Ridge, Va
Riverport Processing (Marmet Dock)	10009	Marmet, WV
Houck & Company	10010	Independence, WV
Barnett Service Co. Inc.	10011	Charleston, WV
Business Resources, Inc.	10012	Piney View, WV
J. L. Treadway Trucking, Inc.	10013	Cannelton, WV
Len Auger Mining	10014	Madison, WV
Appalachian Mining Inc. (Alloy #1 Highwall Miner)	10015	Alloy, WV
Gem Mountain Sapphire	10016	Philipsburg, MT
Pond Creek Coal Company (Beech Creek III)	10017	Beech Creek, KY
Pond Creek Coal Company (Ebenezer)	10018	Drakesboro, KY

NAME	CHAPTER NO.	LOCATION
Gold River Mining Company Inc.	10019	Lizemores, WV
Phoenix Mining Company Inc. (Phoenix Mine No. 1)	10020	Harrisburg, IL
Herndon Enterprises Inc. (Keystone #2)	10021	Herndon, WV
Inter-Mountain Resources (Frank Branch Strip #1)	10022	Dundon, WV
Mungas Company Inc.	10023	Philipsburg, MT
Smith Contracting	10024	Whitehall, MT
P-38 Mining	10025	Anaconda, MT
Golden Tech Inc.	10026	Anaconda, MT
Pigeon Branch Coal Company	10027	Amonate, WV
Sutton Mining Company LP.	10028	Ward, WV
Cummins Intermountain Diesel (Boise Branch)	10029	Boise, ID
Cummins Intermountain Diesel (Elko Branch)	10030	Elko, NV
Cummins Intermountain Diesel (Salt Lake City Branch)	10031	Salt Lake City, UT
Cummins Intermountain Diesel (Las Vegas Branch)	10032	Las Vegas, NV
Cummins Intermountain Diesel (Sparks Nevada Branch)	10033	Sparks, NV
Jorden Contracting Inc.	10034	Anaconda, MT
Rhone-Poulenc Maiden Rock Quarry	10035	Butte, MT
Brumfield Construction	10036	Madison, WV

NAME	CHAPTER NO.	LOCATION
Boone Center	10037	Madison, WV
Miami Coal Company, Inc. (Mine #17 Sardis)	10038	Sardis, WV
Curtis Young Trucking	10039	Madison, WV
Bosley Construction	10040	Madison, WV
Workman Trucking	10041	Madison, WV
Spangler Coal Company	10042	Pond Gap, WV
Rochester & Pittsburgh Coal Co. (Margaret #11 - No. 2 Portal)	10043	Indiana, PA
Green Branch Mining Inc. (#1 Mine)	10044	Oneida, TN
Corff Sand and Gravel Company	10045	Oklahoma City, OK
R. S. Mining	10046	Premium, KY
Operating Engineers Trng. Program	10047	Rosemont, MN
Long Branch #12 Trucking	10048	Madison, WV
Long Branch #6 Trucking	10049	Madison, WV
North American Battery	10050	Madison, WV
Gould Energy (Warner Laboratories Division)	10051	Cresson, PA
Gould Energy (Warner Laboratories of WV)	10052	Gormanian, WV
Gould Energy (Weighing & Control Services)	10053	Brandon, FL

Results of Bulletin questionnaire

As of 26 November 1990

1. How many people in your chapter see the Bulletin each month?

An average of 16 per issue

2. Would it be helpful if you could receive additional copies?

Yes 39%; No 42%; No comment 19%

3. Do you like the Bulletin in its present format?

Yes 98%; No 1%, No comment 1%

4. Would you like to hear from other District Councils?

Yes 33%; No 23%; No comment 44%

5. What articles or features do you especially like?

	Rank:	1	2	3	4	5
A. Safety topics						X
B. Accident summaries						X
C. Posters						X
D. Announcements						X
E. District Council reports						X

6. What articles would you like to see more of?

- A. Surface mining operations
- B. Open-pit metal and nonmetal
- C. MSHA regulations updates
- D. Crushed stone, sand and gravel
- E. Accident prevention
- F. Articles on topics for safety talks
- G. Incentive programs

We will make every effort to address your concerns identified in the questionnaire responses and would like to take this opportunity to thank all of you for taking the time to fill them in.

Holmes Safety Association Monthly Safety Topic



Fatal roof fall accident

GENERAL INFORMATION: A mine foreman was killed and a roof bolt operator was seriously injured in a massive roof fall accident.

The mine produces coal with two production and one maintenance shifts per day, five days per week, with ninety-five underground employees and five surface employees.

The mine is a multi-unit mine with one advancing and one retreating (pillaring) unit. Both units utilize Joy 14CM10 Continuous Mining Machines (remote controlled), Ingersoll-Rand Coal Haulers, Fletcher Roof Bolting Machines, S & S battery-powered scoops and A.L. Lee diesel-powered mantrips. Both units utilize belt conveyor coal haulage systems. The mine has a daily production of thirty-one hundred (3100) tons.

DESCRIPTION OF ACCIDENT: The crew traveled underground, via diesel powered mantrip. The evening shift crew relieved the day shift crew as each miner arrived at his regularly assigned task/equipment on the section.

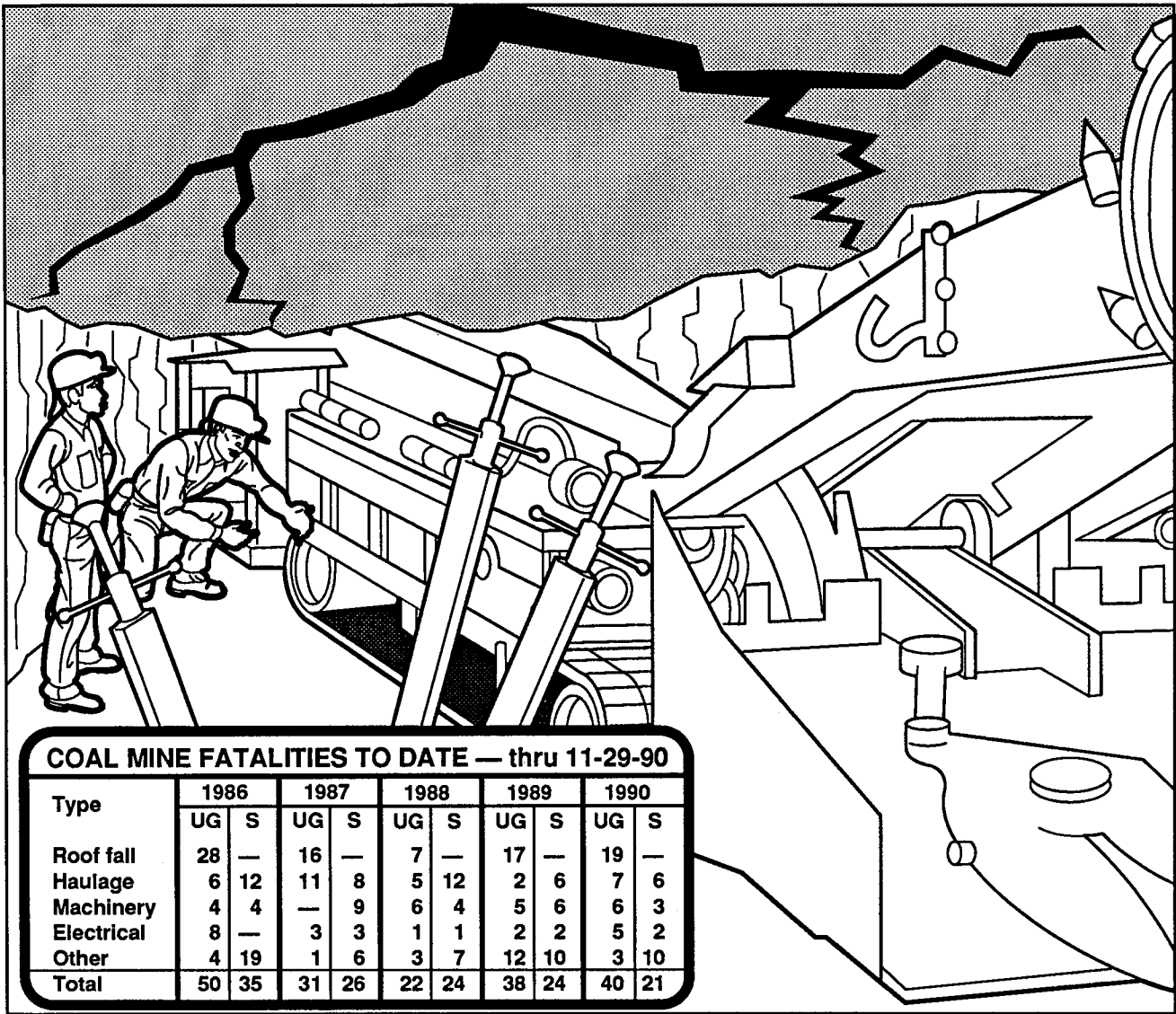
The victim met with the day shift foreman and discussed the condition of the section and plans for the evening. He then proceeded to the No. 2 Left pillar block to observe and assist in mining operations. The day shift had already started mining coal from this pillar prior to the arrival of the evening shift. They had mined the "long" split and approximately two thirds of the back "wing". The

evening shift completed this wing, mined the "short" split through and right wing and were attempting to mine the final push of the left wing.

During the mining of this pillar, all available crew members and the foreman had participated in the installation of breaker and roadway posts. Upon the completion of each installation and during the mining cycle, it was the responsibility of the foreman to observe the roof for any indications that it might fall to prevent the continuous mining machine from being caught.

Prior to the occurrence, the victim and the roof bolt operator had positioned themselves in by the miner operator between the roadway and breaker posts for the purpose of observing the roof while the final push was being mined. At approximately 5:15 p.m., as the fourth car was being loaded, the roof fell without warning, fatally injuring the foreman and seriously injuring and entrapping the roof bolt operator. The continuous mining machine was completely covered and the loading end of the coal hauler was caught by the fall. Rescue and recovery efforts were begun immediately by the crew. The superintendent, MSHA and state officials were then notified.

The entrapped miner was caught by roof material from the waist down. He was positioned next to the tire of the coal hauler. The coal hauler caught a large portion of the fallen material. Fallen material had been removed to the extent



COAL MINE FATALITIES TO DATE — thru 11-29-90

Type	1986		1987		1988		1989		1990	
	UG	S	UG	S	UG	S	UG	S	UG	S
Roof fall	28	—	16	—	7	—	17	—	19	—
Haulage	6	12	11	8	5	12	2	6	7	6
Machinery	4	4	—	9	6	4	5	6	6	3
Electrical	8	—	3	3	1	1	2	2	5	2
Other	4	19	1	6	3	7	12	10	3	10
Total	50	35	31	26	22	24	38	24	40	21

that his upper body was visible. Oxygen was being administered by an emergency medical technician (EMT). Two one-hundred (100) ton hydraulic jacks were used to lift the material off his legs. Cribs consisting of header boards were built as the fallen material was raised. He remained responsive and coherent throughout the rescue operation.

Additional support posts were installed along the left side of the entry leading to the accident site.

Upon further examination, it was found that his left foot was caught. This necessitated cutting the rubber boot from his foot. After the boot was removed, he was pulled from beneath the roof fall and

placed on a Stokes lifter. First aid was administered at the scene by two EMTs. He was then placed on a diesel personnel carrier and transported to the surface.

Upon arrival on the surface, he was treated by a physician and was placed in a company ambulance and transported to a helicopter which was waiting nearby. He was flown to the medical center for further treatment.

CONCLUSION: The accident and resultant fatality and injury occurred as a result of persons being permitted to position themselves in a hazardous location while coal was being mined from the final push out of the pillar.

Front end loader safety

Each year, a number of mine employees are killed in front end loader accidents. Most fatalities occur when the unloaded machine is being trammed at high speeds from one area to another. Trimming is especially dangerous because the front end loader, when empty, tends to bounce and weave at high speeds. This inherent instability makes downgrade tramping particularly hazardous. Other hazards include collisions with other equipment while operating in congested areas, getting caught in pinchpoints of the bucket arms or the articulated steering, and spilling parts of the load on truck drivers or others working in the vicinity.

You need to be aware at all times of hazards that can cause injury. Here are some things you can do to reduce these hazards:

1. Prior to starting the front end loader, check the tires, brakes, emergency systems, and all other items affecting your safety. A checklist should be provided for this purpose. (See the following preshift inspection checklists for various types of loaders and other mobile equipment.) If anything is wrong with your equipment, report it to the people responsible for maintenance. Do not start the machine if it is not in safe condition!

2. While performing your equipment safety checks, walk and look around the loader to make sure the surrounding area is clear for movement.

3. Wear the proper protective equipment for the job. The minimum equipment must include a hard hat, safety shoes, safety glasses, and most importantly, a seat belt. In the event of a rollover, your loader's Rollover Protective Structures (ROPS) won't offer one bit of protection

unless you're strapped in.

4. Do not allow anyone to ride with you unless the machine is equipped with a second seat. Never carry riders in the loader bucket!

5. Use extra caution when backing the loader, especially in congested areas. The law requires your machine to be equipped with a backup alarm to ensure that others in the vicinity are aware of your presence. However, since the backup alarm does not activate until the loader is in reverse gear, sound your horn as an additional warning before you back up.

6. While tramping, obey all posted speed limits, traffic signals, and rules. Road and weather conditions should also govern speed. Read the speed limits but also think!

7. When working near embankments or on grades, guard edges with barricades or berms to lessen the possibility of running off the edge. Do not coast or free-wheel your machine while proceeding downgrade. Stay in gear and use the brakes and/or the decelerator to slow down or stop as needed. Maintain the engine rpm to give you the control you need.

8. Follow a predictable, established procedure during loading operations. You need to know where the truck driver is at all times, and vice versa. Upsetting the normal traffic pattern often leads to accidents.

9. Park the loader on level ground, and completely lower the bucket to the ground. Shut off the engine and apply the parking brake securely. Lock the transmission control and remove the keys to prevent any use by unauthorized persons. Unattended front end loaders are an "attrac-

tive nuisance" to children. Your company has probably established procedures that incorporate many of these recommenda-

tions. Learn and follow all of them for your own safety, as well as for the safety of your fellow employees.

1990 Rolla metal/nonmetal mine rescue contest winners

On October 25-26, 1990, the South Central Metal/Nonmetal District, held a mine rescue contest in Rolla, Missouri. It was a very successful event with nine teams participating in the contest. The contest problem included a multilevel mine and establishing a fresh air base. The problem also included a sleeping victim on the fourth level and to the surprise of mine rescue teams, the victim, when awakened ran up the incline to the third level under loose ground.

The Contest Trophies went to:

1st Place - Westinghouse WIPP
Silver
2nd Place - AKZP Salt, Inc.
3rd Place - Pea Ridge Iron Ore
4th Place - Doe Run Co.

The Benchman Trophies went to:

1st Place - Westinghouse WIPP -
Fred Miller
2nd Place - AKZO Salt, Inc. -
Harold LaBlanc
3rd Place - ASARCO, Inc. -
Tommy Stricklin

JSA Day in the mining industry

Job Safety Analysis teleconference scheduled to air Feb. 14, 1991

Mark February 14, 1991, on your calendar as "JSA Day in the Mining Industry". The Mine Safety and Health Administration, in cooperation with State Grants recipients, labor unions, industry associations, and mining companies, is sponsoring a Job Safety Analysis (JSA) satellite program on that date.

As a mine manager, supervisor, trainer, or miner, you can learn how to increase employee safety, reduce accident costs, and improve production. One of the most practical methods available is JSA. Using the JSA method, miners and supervisors work together to identify potential safety problems and to develop step-by-step procedures to eliminate hazards.

On February 14, 1991, from 1:00 p.m. to 3:00 p.m., Eastern Standard Time, a satellite-delivered video teleconference will be broadcast. The program will be available, free of charge, to anyone with access to a satellite dish. The specific satellite and channel have not yet been confirmed. A large number of downlink sites (viewing locations) have been arranged through the State Grant recipients. Presenters,

widely experienced in the practical design and implementation of safety programs at both large and small mines, will be on the program. The broadcast will also include activities for participants at the downlink sites, a brief history and philosophy of JSA, videos of field JSA usage, live presentations by industry personnel using JSA, and the opportunity to call in questions or comments from the downlink sites.

A large number of the facilitators at the downlink sites are planning additional activities before or after the satellite broadcast, such as workshops, seminars, and general information meetings.

**PLEASE JOIN US ON FEBRUARY 14, 1991, FOR
JSA DAY IN THE MINING INDUSTRY**

For further inquiries regarding specific satellite and channel information, please contact the Informational Services Branch at the National Mine Health and Safety Academy, P.O. Box 1166, Beckley, West Virginia 25802-1166, telephone number (304)256-3267.

JSA Seminar in Sulphur, Okla., November 8, 1990

As a result of the growing interest in Job Safety Analysis in the mining community, a JSA seminar was held in Sulphur, Oklahoma, on November 9, 1990. Local industry managers, trainers, and safety specialists, working through the Metal/Non-metal Safety and Health Office in Oklahoma City, requested that a JSA program be conducted in a location convenient to the mine sites. The objectives of the pro-

gram were to introduce the JSA concept, illustrate how it is done, and showcase the materials currently available at the National Mine Academy in Beckley, W.V. Inspection Supervisor Russell Smith, of the Oklahoma MSHA office, made all the arrangements for the site and invited the industry to attend. Approximately 45 people attended the seminar. They represented superintendents, plant managers, safety

directors, and labor representatives from industry; personnel from the State of Oklahoma; and MSHA inspectors.

The program was introduced by Chuck Taylor, M/NM Training Specialist from Headquarters in Arlington. He had the participants break out into groups of 6-8 people. Taylor then surveyed the participants and asked each group to express their desires on what they hoped to gain from the seminar in writing. This was followed by a taped message from William Tattersall, assistant secretary of labor for mine safety and health.

Jimmy Shumate, from the Mine Academy, then presented a newly developed training package available at the Academy. This consisted of a video tape and instructor guide combination which was designed to simplify the JSA process. After viewing the video tape, the group was shown transparencies made from the visual section of the instructor guide.

Using the instructor guide, the next presentation featured a more detailed explanation of the JSA basic steps; selecting a job; listing the job steps; identifying the hazards; and selecting safe job procedures. The participants were divided into groups and participated in this segment by working on an exercise in identifying the basic types of accidents.

Reference was made to the large number of On-Job-Training books available at the Mine Academy for use in developing JSA's. Examples of these books were on display. It was emphasized that these books were to be used as a means to develop JSA's, not for direct use. The modules must be tailored to fit the actual mining operations.

Jack Mulhern of MSHA's Technical Support group gave a presentation on the engineering aspects of JSA. He cited several examples of how engineering solutions were used to arrive at safe work

procedures. He also encouraged the group to call on Technical Support for assistance in solving engineering problems.

After a lunch break, the afternoon session was conducted by Gene Albright and Dan Haupt, Education and Training Specialists from MSHA's South Central District office. Their first activity was role-playing involving a supervisor and worker doing a JSA on a job. The role-playing included both correct and incorrect procedures for doing a JSA. The participant groups were asked to join in this activity and report on the right and wrong procedures.

The next activity was to perform a task and have each group contribute a portion of a JSA from their observations. Each group was given a job step to analyze and assigned to fill out a JSA sheet which consisted of three columns: job step, hazards, and safe procedures. Each group reported on their job step and a critique was given. As a result of the exercise, many of the job steps were simplified, and the resulting JSA reduced the hazards significantly.

The last portion of the seminar was a summary by Chuck Taylor, including a recap of the groups' expectations of the course. Each participant filled out an evaluation of the seminar and received a certificate.

Thanks to Mr. Russell Smith of South Central's Oklahoma City Field Office for conceiving the idea of presenting a locally focused program of this kind, and to the MSHA Academy and Technical Support for their assistance in putting it together. Questions concerning the seminar should be referred to Chuck Taylor, Training Specialist, Metal/Nonmetal Mine Safety and Health Administration, Mine Safety and Health Administration, 4015 Wilson Blvd., Arlington Va., or by telephone at 703-235-1661.

Coal fatalities dip, other mine deaths rise in first nine months

The number of coal mining fatalities in the United States decreased slightly while the rate of deaths per total hours of work remained unchanged during the first nine months of 1990 compared to the same period in 1989, the Labor Department's Mine Safety and Health Administration (MSHA) announced today.

In the metal and nonmetal (non-coal) mining industry, the number of fatalities and the fatal rate per hours of work increased for the first nine months of 1990, compared to the same period of 1989, following a steady decline in the past few years.

"Although the national trend in mining deaths has been downward in recent years, many fatalities and serious injuries that could have been avoided are still occurring in our mines," said Bill Tattersall, assistant secretary of labor for mine safety and health.

"MSHA's programs are based on the belief that all serious accidents are preventable. Our activities and those of state mining agencies are important in reducing injuries and promoting more healthful mine environments, of course, but, in the end, it must be the decisions and actions of mine operators and miners that will contribute most toward eliminating workplace tragedies."

The rate of fatal injuries in coal mining was .05 per 200,000 employee work-hours during the first nine months of 1990. This compares with .05 for the same period of 1989 and for all of last year. Fifty-four miners were killed on the job through September of this year, compared to 55 during the same period of 1989.

The rate for non-fatal coal mining injuries involving lost worktime during the first nine months of 1990 was 7.82 injuries per 200,000 employee-hours, down from

7.88 in the same period of 1989. The rate for all types of injuries in coal mining was 10.08 per 200,000 work-hours. This compares with 10.56 for the same period of 1989.

Coal miners worked a total of 233 million hours during the first three quarters of 1990 compared to 221.5 million for the same period of 1989. Average employment during the first nine months was 163,753 compared to 159,061 for the same period of 1989.

The rate of fatal injuries in metal and nonmetal mining in the first nine months of 1990 was .03 per 200,000 employee-hours worked, compared to .02 for the same period of 1989 and for all of last year, equal to the historical low rate in several recent years. Forty-three metal and nonmetal miners died in accidents through September of this year compared to 39 for the same period of 1989.

The rate of non-fatal lost-time injuries at metal and nonmetal mines was 4.15 for the first nine months of 1990, down from 4.45 for the same period of 1989. The rate for all types of metal and nonmetal mining injuries for the first nine months of this year was 6.96 compared to 7.96 for the same period of 1989.

Metal and nonmetal miners worked a total of about 321 million hours through September of this year compared to more than 318 million for the same period of 1989. Average employment for the period was 231,283, compared to 228,526 for the same period of 1989.

Additional information on mining injuries will be published in "Mine Injuries and Worktime, Quarterly, January-September 1990," available soon from the Office of Information and Public Affairs, MSHA, 4015 Wilson Blvd., Arlington, Va., 22203-1984. Telephone (703) 235-1452.



**Check for
equipment defects
before each shift**

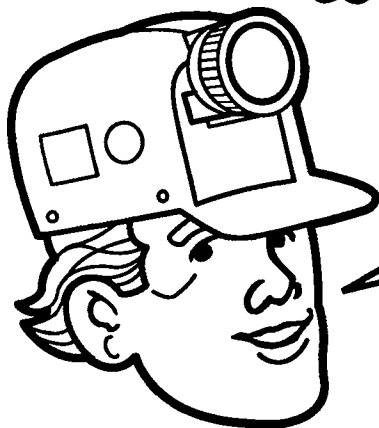
Roof Evaluation—Accident Prevention

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



**Your New Year's
resolution
should be to
make ...**

**inby ...
a line you'll
never cross!**



**Life is too short to go under
unsupported roof.
Stay out of the Death Zone!**

MINERS: Credit for this month's safety slogan goes to: Kevin Thornsbery of Big Butt Mining, HCR Box 42AAA, Grundy, VA 24614. Please send your suggestions to: MSHA, Educational Policy & Development, 4015 Wilson Blvd., Graphics Room 533A, Arlington, VA 22203-1984. Phone: (703) 235-1400



January 1991

January 1991

Please fold in thirds before mailing

5000-22
(Rev. 12-78)



Holmes Safety Association Meeting Report Form

Fold here

For the month of	<input type="text"/>
TOTAL meetings this month	<input type="text"/>
TOTAL attendance this month	<input type="text"/>
Chapter number	<input type="text"/> (See address label, if incorrect, please indicate change)

Fold here

NOTE: We must have your correct chapter number to give you credit for your HSA meetings

Signature	<input type="text"/>
Telephone no.	<input type="text"/>
Title	<input type="text"/>

- 1. Fill out 2. Fold and *TAPE!* 3. Free mail in**

DO NOT USE STAPLES — The U.S. Postal Service says they jam the automatic sorters. Sharply creased folds will mail without tape

NOTE: Be sure our address shows on the other side (no staples please)

Fold here

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Postage and Fees PAID
U.S. Department of Labor
LAB 441

MSHA, Office of Holmes Safety Association
Educational Policy & Development
4015 Wilson Boulevard
Arlington, Virginia 22203-1984

January 1991

Ideas for safety talks

Abilities	Containers	Explosions	Hearing
Abrasions	Controls	Extinguishers	Heat
Accidents	Cooperation	Eyes	Helmets
Aisles	Correction	Fainting	Hoists
Alarms	Co-workers	Falling	Horseplay
Analysis	Craftsmanship	Family	Hours
Announcements	Cranes	Fans	Housekeeping
Aptitudes	Customers	Feelings	Husbands
Asbestos	Cuts	Fears	Ignorance
Attention	Cutting	Files	Illumination
Awards	Damage	Films	Illustrations
Awareness	Death	Fingers	Incentives
Badges	Defects	Fire Fighting	Individuality
Bandages	Demonstration	First Aid	Injuries
Banners	Desires	Floors	Inspection
Behavior	Determinations	Follow-through	Instruction
Belts	Devices	Fork Lifts	Insurance
Benefits	Diagrams	Forms	Investigation
Blood	Disabilities	Frustrations	Jacks
Boats	Discipline	Fuel	Jewelry
Boilers	Displays	Fumes	Jib Cranes
Brochures	Downtime	Gasoline	Jig Saws
Bruises	Driving	Gases	Job Analysis
Bulletins	Dusts	Gears	Job Duties
Cables	Duties	Glasses	Job Observation
Cars	Ears	Gloves	Judgment
Cartoons	Education	Goals	Keys
Causes	Electricity	Goggles	Kitchens
Chains	Emergencies	Graphs	Kits
Charts	Emotions	Grease	Knives
Chemicals	Energizing	Guards	Knowledge
Children	Enforcement	Guessing	Labels
Chisels	Engineering	Guns	Ladders
Climbing	Enthusiasm	Habits	Laws
Clothing	Environment	Hammers	Leadership
Coaching	Equipment	Hand Tools	Learning
Colors	Evidence	Hazards	Liability
Confidence	Example	Health	
Contacts	Exhibits		

Lifting	Planning	Slings	Visual Aids
Lighting	Poisons	Slipping	Volunteers
Lightning	Policies	Smoke	
Listening	Pools	Sound	Walkways
Loading	Posters	Speed	Warnings
Loss	Potential	Statistics	Waste
Loss Control	Praise	Supervision	Water Safety
	Prescription	Swimming	Welding
Machines	Prevention	Symbols	Wheels
Maintenance	Procedures		Will Power
Materials	Profit	Tags	Wiring
Medicine	Property	Teaching	Wives
Mentality	Protections	Teamwork	Work Benches
Mistakes	Psychology	Techniques	Workmanship
Mists		Think	Wrenches
Mock-ups	Qualifications	Tips	
Money	Quality	Toes	X-rays
Models	Questions	Tool Cribs	Xylene
Motivation	Quizzes	Tools	
Mowers	Quotations	Toxicology	Yearning
		Toys	Yelling
Nets	Radiation	Tractors	Yellow Lines
News Items	Raw Materials	Traffic	Yielding
Noise	Recognition	Trailers	Yourself
Notices	Records	Training	Youth
Novelty	Reinforcement	Treatment	
Novice	Regulations	Tripping	Zeal
Nuts	Repeaters	Trucks	Zero Defects
	Reports		Zero Mistakes
Off-The-Job	Research	Ultrasonics	Zest
Oil	Respirators	Umbrellas	Zinc
On-the-Job	Resuscitation	Understanding	Zippers
Operations	Rewards	Unfamiliar	Zones
Operators	Rings	Unloading	
Optics	Rules	Unsafe	
Optimism		Utilities	
Order	Sanders		
Organization	Saws	Vacations	
Oxygen	Screwdrivers	Vapors	
	Shelves	V-belts	
Pallets	Shoes	Vehicles	
Performance	Signals	Ventilation	
Personality	Signs	Vinyl	
Pictures	Skill	Violations	
Pills	Skin	Vision	

*Associated Pennsylvania
Constructors
800 North Third Street
Harrisburg, PA 17102*

Blasting safety

Blasting is one activity that everyone recognizes as potentially hazardous. Because of this recognition, well-conceived safety programs throughout the industry have led to a low incidence of blasting accidents.

Research and development efforts of explosives manufacturers have resulted in the formulation of safer, as well as more efficient, explosives and blasting agents. The "Do's and Don'ts" pamphlet, published by the Institute of Makers of Explosives (IME) and inserted into each case of explosives sold, clearly outlines safe handling procedures. IME has also published an excellent series of safety pamphlets covering every phase of explosives use. Other valuable sources of blasting safety information are Bureau of Mines Information Circular 8925, *Explosives and Blasting Procedures Manual*, and the DuPont Company's *Blaster's Handbook*. DuPont also presents a series of short courses on explosives safety throughout the country on a regular basis.

Despite the remarkably good safety record these efforts have produced, blasting accidents have not been eliminated. Alarming, while there were no blasting fatalities in metal and nonmetal mining in 1983, five people were killed in metal and nonmetal blasting accidents during the first six months of 1984. Each death could have been prevented if basic safety rules had been followed.

Violating safety rules can cause serious accidents at every stage of explosives use; however, certain aspects of blasting have more accident potential than others. Avoiding the following four types of accidents, listed in approximate order of frequency, would significantly improve the blasting safety record.

Improper Guarding. This includes improper guarding of the blast area or blasting crew members taking inadequate cover. Many people underestimate the potential range of flyrock.

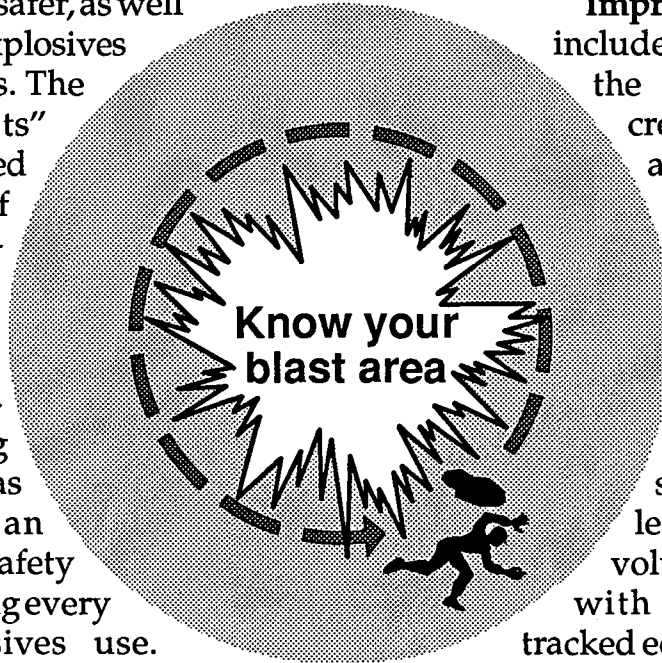
Impacting Explosives. Most often this involves drilling into holes containing explosives, frequently bootlegs. However, it may involve striking explosives with excavator buckets, tracked equipment, or rail equipment, or excessive beating on explosives with a tamping pole.

Unsafe Cap and Fuse Practices. For various reasons, all involving unsafe acts or carelessness, the blaster is still in the vicinity of the blast when it detonates.

Extraneous Electricity. Exposure of electric blasting caps to stray ground current, static buildup, radio frequency energy, inductive coupling, or improper test instruments can cause unscheduled detonation. Lightning is a hazard with all types of explosive materials.

Other causes of accidents include explosive fires that detonate (hangfires), poor warning systems, loading hot holes, and exposure to blast fumes.

Cal Quarryman's Safety Newsletter, July 1984.



Holmes Safety Association Monthly Safety Topic



Fatal electrical accident

GENERAL INFORMATION: A 27 year-old loader operator, substituting as a plant operator, was fatally injured (electrocuted) while operating a hand-held push button control switch that controlled a 460-volt AC vibrator. Apparently the control had been dropped, causing the plastic stop button to break and exposing the energized mechanism inside. The victim's entire mining experience of six and a half years was spent at this mine. He contacted the energized metal inside with his left thumb and his right arm touched the steel retaining wall.

The company used a Terex model 72-61 front-end loader in the pit to mine and load the sand and gravel into a Euclid R-22 end-dump haul truck. The material was hauled approximately one mile to the plant and dumped through a grizzly into a feed hopper. From there the sand and gravel passed over a wet shaker screen where it was cleaned and sized, and conveyed to stock piles. Another Terex front-end loader was used to load finished products on over-the-road haul trucks for use in various commercial and public applications.

DESCRIPTION OF ACCIDENT: The victim reported to work at his normal starting time of 7:00 am and operated the front-end loader in the plant until about noon. The regular plant operator was absent from work that day. The supervisor operated the plant from 8:00 am until about noon without incident. The driver

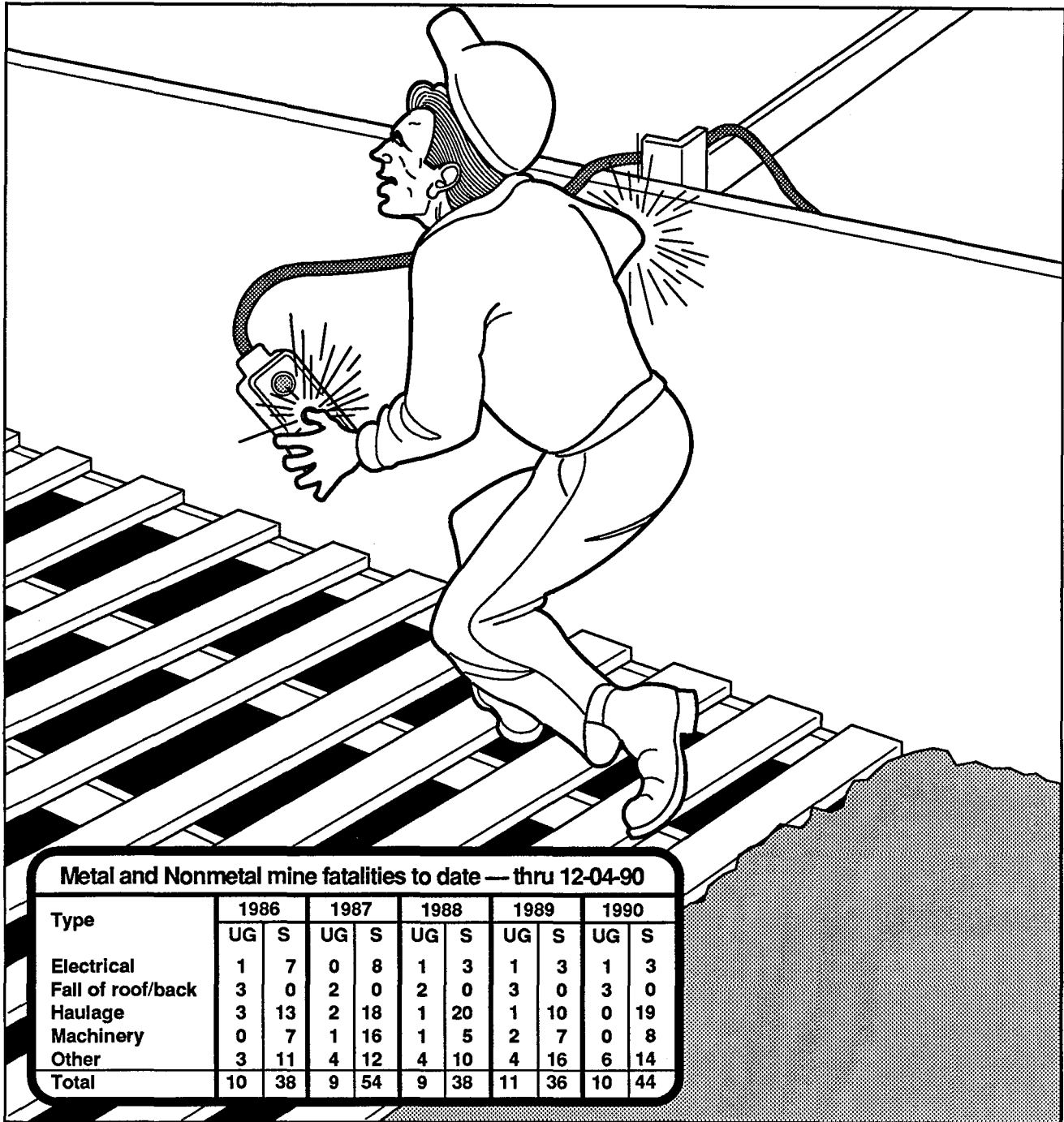
of the Euclid haul truck was also absent from work, causing the operation to be a person short. The supervisor asked the victim if he would fill in as truck driver and he responded that he would prefer to operate the plant. Therefore, at noon, the victim took over as plant operator and the supervisor began operating the haul truck.

The supervisor made several ten-minute trips from the pit to the plant noticing that the victim was positioned on the main feed hopper grizzly observing plant operations and operating the control for the vibrator when necessary.

It was believed that after the supervisor left for the pit the victim may have dropped the hand-held feed hopper vibrator control resulting in the plastic insulating cover to break or fall off. This condition left the energized metal accessible for contact by the operator. In operating the feed hopper vibrator, the victim apparently contacted the energized metal with his left thumb while his right arm was touching the steel retaining wall on the grizzly. The current traveled from his left thumb, across his chest and exited above his right elbow.

At approximately 12:25 pm, the supervisor arrived at the hopper with a load and saw the victim lying on the grizzly. The electrical cord for the main feed hopper vibrator control was underneath him.

The supervisor noticed that the victim's skin had a bluish tint. When he saw the electrical cord under the body he went



Metal and Nonmetal mine fatalities to date — thru 12-04-90

Type	1986		1987		1988		1989		1990	
	UG	S	UG	S	UG	S	UG	S	UG	S
Electrical	1	7	0	8	1	3	1	3	1	3
Fall of roof/back	3	0	2	0	2	0	3	0	3	0
Haulage	3	13	2	18	1	20	1	10	0	19
Machinery	0	7	1	16	1	5	2	7	0	8
Other	3	11	4	12	4	10	4	16	6	14
Total	10	38	9	54	9	38	11	36	10	44

to the control room and turned the power off and shut down the plant. He immediately returned to the victim and began to administer CPR. When the emergency medical team arrived they were unsuccessful in reviving the victim and he was subsequently pronounced dead at the scene by County officials.

CONCLUSION: The accident was caused

by the inadvertent contact between the uninsulated switch cover and the steel retaining wall causing electrocution. The stop button was in place prior to the victim's assumption of plant operator duties and he was familiar with the job. It was later determined that the victim had a blood-alcohol level of 0.07% which, according to the AMA, could cause a loss of attention, judgement, and control.

First aid



Did you know?

The most common occupational ailments according to the American Physical Therapy Association are back and neck aches, carpal tunnel syndrome and various "soft tissue" injuries caused by stress on muscles and joints.—Data from the Bureau of Labor Statistics show that job-related, repetitive-motion injuries are the fastest growing category of injury today. Soft tissue injuries account for more than 30% of all workers compensation claims.

Back injuries most common

Last year, backs continued to be the part of the body most frequently injured, accounting for 1 in 5 injuries—a figure that has not changed for many years. Why so little progress? For years the "proper lifting techniques" have been taught to employees. So what's the problem? Statistics show that nearly 40% of all back

injuries are caused by falling objects, slips, trips, falls etc. Maybe good housekeeping and other causes of these types of accidents should be looked into to prevent them. Of the remaining 60%, less than half of these result from lifting. Backs are prone to injury from years of neglect and can be hurt by just turning the wrong way. Although correct lifting techniques are known they aren't practiced. So what can we do? Three approaches have met with some success: 1) applying ergonomic principles to job design can eliminate up to one-third of compensable back injuries; 2) muscle strengthening back exercise programs can effectively help prevent the cause of 60% of back injuries; 3) high profile awareness campaigns are helpful in getting people to apply the knowledge they already have when lifting and bending.

The ABC's of first aid

Several conditions may exist that can be considered life-threatening to a patient. These life-threatening conditions are referred to as the ABC's:

- A. Airway
- B. Breathing
- C. Circulation

The patient should be checked immediately following the injury or onset of illness to determine any problems that may exist within the ABC's category. Prompt identification and correction of these problems are necessary for recovery of the patient.

A. Airway

The head-tilt, chin-lift, (Figure 1), is used to open the airway in the unconscious patient who is not suspected of having neck injury.



Figure 1

Where neck injury is suspected in the unconscious patient, the jaw-thrust is used to open the airway.

B. Breathing

Determine whether a patient is breathing by looking, listening, and feeling for respiration. If these signs are absent, artificial ventilation should be started.

To give mouth to mouth artificial ventilation, open the airway, pinch the nostrils shut, and give two full ventilations, (Figure 2) in the event that the airway seems obstructed, follow the instructions for the "unconscious patient" under

"choking victim." Otherwise continue with one ventilation every 5 seconds on an adult. Artificial ventilation should be

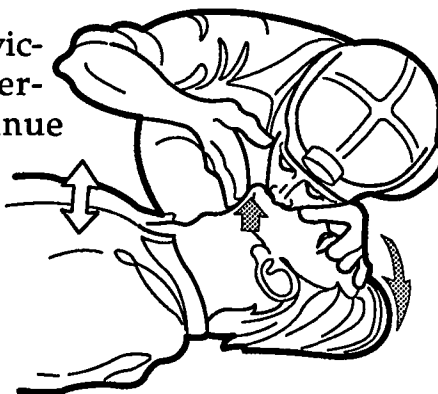


Figure 2

continued until: The victim resumes breathing on his own, a trained person relieves you, a doctor takes over, or you are exhausted and unable to continue.

C. Circulation

After the two initial ventilations, check the carotid artery for a pulse (Figure 3). If no pulse is present, Cardiopulmonary Resuscitation (CPR) should be given by a properly trained person.

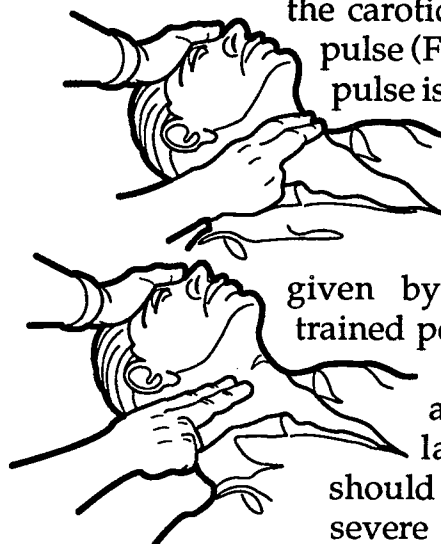


Figure 3

Another aspect of circulation that should be checked is severe bleeding. A check should be made from head to toe for severe bleeding. If found, severe bleeding should be controlled immediately by using direct pressure over the wound or by applying arterial pressure.

Choking Victim

The universal sign for choking is illustrated in Figure 4. The patient should be asked if he/she is choking. If so, abdominal thrusts are given to the conscious victim until the airway is cleared or until

the victim loses consciousness (Figure 5).

Two exceptions to giving abdominal thrusts are pregnant and obese patients. In these two cases, chest thrusts are given.

In the unconscious victim, (Figure 6), 6-10 abdominal thrusts are given before the rescuer checks the mouth for the dislodge object.



Figure 4



Figure 5

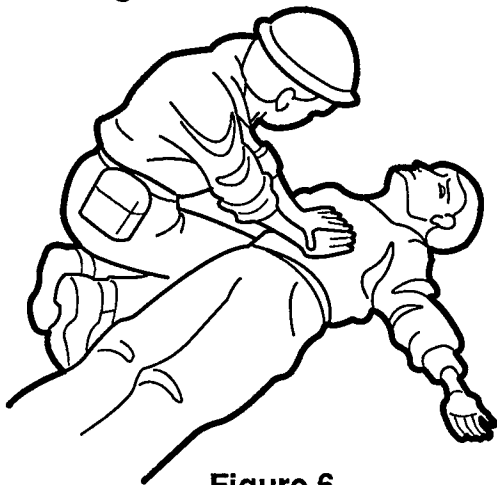


Figure 6

Rules for rescue

1. **Survey entire accident**—Look for hazards that may cause further harm to the victim and/or rescuers.
2. **Identify and correct hazards**—Support unstable roof, deenergize equipment, check for harmful gases.
3. **Correct life-threatening injuries**—Perform emergency care as soon as possible. The injured or sick should not be moved until life-threatening injuries are treated.
4. **Immobilize**—The patient must be properly secured before transporting.

Plan of action for freeing a trapped victim

1. **Gain access**—This may be the most difficult step. Unstable roof, tight clearances, energized cables, and unaccessible areas pose hidden dangers to rescuers.
2. **Render life saving care**—Begin with a visual check then proceed to administer care. Focus attention on the ABC's (Airway, Breathing, Circulation).
3. **Disentanglement**—The removal of the victim from roof fall entrapments, belts/conveyors, or machinery requires extreme care. Proper rescue equipment may be the difference between a serious accident and a fatal one.
4. **Preparation for removal**—Once the victim has been freed, additional first aid will be needed. Maintain an open airway, control bleeding, dress and cover open wounds, splint fractures, and always treat for shock.
5. **Removal**—Before and during the freeing of a trapped or injured person the transportation equipment must be prepared. Make the victim as comfortable as possible. The EMT or first responder should continue to monitor the patient until medical assistance arrives to transport the victim to a hospital.

*Virginia Department of Mines, Minerals and Energy
Mine Safety Program, December 1990*

Hearing protectors offer unheard of benefits

Want to decrease your chances of getting arteriosclerosis, diabetes or gastrointestinal disorders? Perhaps you'd like to lower your blood pressure and lengthen your life span a little as well.

You might already have taken steps to lower your cholesterol level and fat intake. That's good. But millions of people still risk these and other health problems, perhaps unknowingly. How? By failing to protect their ears from too much noise. Believe it or not, exposure to excessive noise levels can threaten your body with the problems above. It can also cause stress, mental disorders, headaches, insomnia and possible harm to pregnant women.

Reaction to noise include elevated stress levels, increased adrenaline and blood pressure, and changes in heart rates. Excessive noise at work, whether it's in a factory or office environment, can also affect accuracy and productivity. When employees are under stress, they have to try harder to concentrate and remain alert. Even after-hours, workers who are exposed to high noise levels during the day may feel anxiety and aggravation.

An estimated 100 million workers in the United States are exposed to potentially hazardous noise. Seven to 10 million work at sites noisy enough to risk hearing loss. According to the National Institute for Occupational Safety and Health (NIOSH), noise-induced hearing loss is one of the 10 leading work-related diseases and injuries. Unlike other inju-

ries, however, hearing loss is not something that people suddenly wake up with, then take the afternoon off to see a doctor for a cure. With noise-induced hearing problems, "you don't know you have a problem until it's too late," explains Tony Bovi, hearing product manager at North Health Care, Rockford, Ill. It happens gradually. And there is no cure.

In the workplace, various protective measures can help prevent employees from suffering irreversible hearing loss. These include engineering controls—enclosing equipment, adding acoustical barriers or redesigning machinery; administrative controls—decreasing the time periods that workers are exposed to excessive noise, rotating jobs and educating employees on protecting their ears; and finally, personal protective equipment.

The Occupational Safety and Health Administration (OSHA) requires that hearing protectors be worn in high noise levels (over 85 dBA) until engineering or administrative controls can reduce the workers' exposure to the noise. Unfortunately, some operations may never be able to feature effective controls. In such cases, the best solution is to equip employees with hearing protectors that fit, that protect them from the noise levels present and that they know how to use. Hearing protectors are also required attire for workers who show decreasing hearing ability on their annual hearing tests.

An individual choice

There are three basic types of hearing protectors: ear plugs, canal cap protectors and ear muffs. Because needs and preferences may vary among jobs and workers, employers should offer a variety of styles to their staff at no cost. Keep in mind that each employee's tolerance to noise will differ. If an operation at your business reaches only 65 dBA but one worker is bothered by the noise, hearing protectors should be made available.

The Environmental Protection Agency (EPA) requires that hearing protectors be labeled with a Noise Reduction Rating (NRR), which explains how effective the products are in terms of decibels and noise reduction. Ear muffs, for example, have NRR ratings between 15 and 25, meaning that if they are worn in noise levels of 100 dBA, the ear would hear about 75 to 85 dBA. The labels also offer information on the protector's fit, durability and effectiveness at specific frequencies.

OSHA's Hearing Conservation Amendment, which supplements OSHA Standard 1910.95, Occupational Noise Exposure, requires employers to monitor noise exposure, conduct audiometric testing, train workers, keep accurate records of noise exposure and require hearing protectors in areas where noise levels exceed 85 dBA.

The challenge to employers is getting employees to comply with the regulations. Hearing protectors are one of the most commonly misused forms of safety equipment. Employees will often alter, fail to maintain or simply not wear the products. They may substitute radio headphones and think they're getting the same protection. Be warned—they're not.

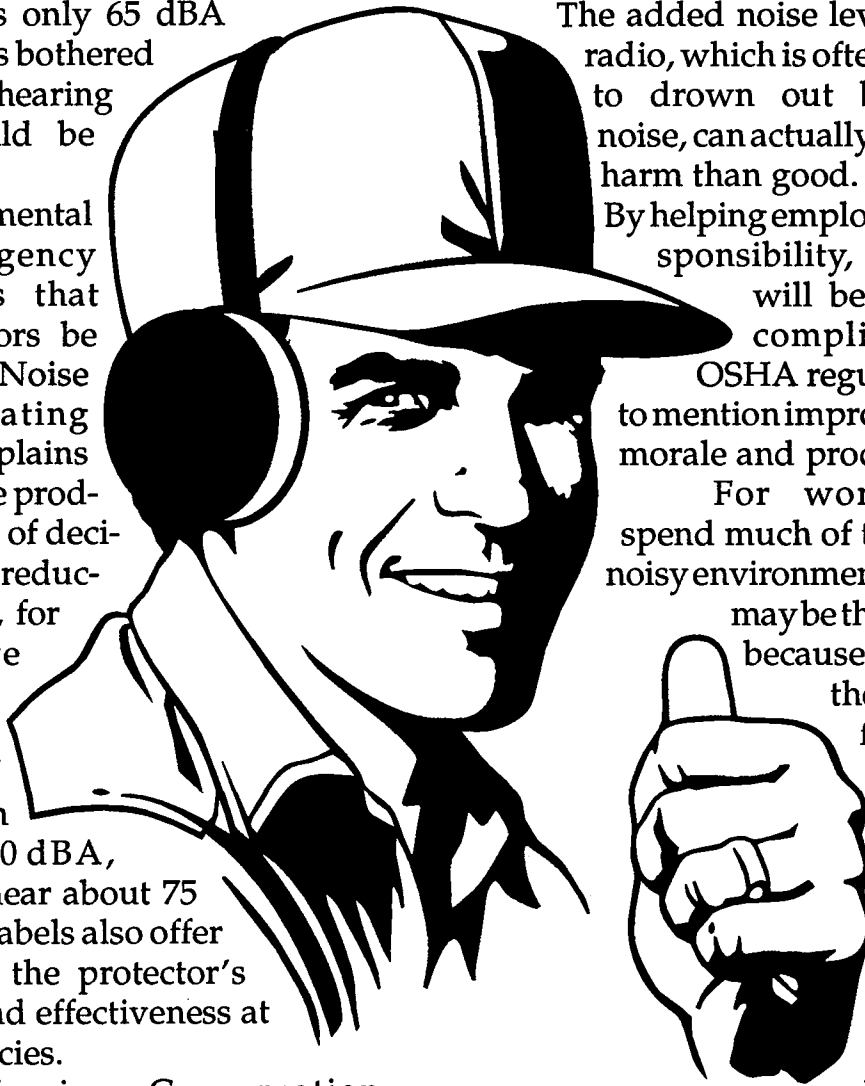
The added noise level from the radio, which is often turned up to drown out background noise, can actually cause more harm than good.

By helping employees take responsibility, employers will be assured of compliance with OSHA regulations, not to mention improved worker morale and productivity.

For workers who spend much of their time in noisy environments, ear plugs may be the best choice because they offer

the most comfort. The p l u g s which are fitted into the outer part of the ear canal, are available in form-

able, pre-molded and custom-molded styles. Formable ear plugs feature foam or soft fibers designed to conform to the ear. They may be disposable, for daily use, or semi-disposable for weekly use. Reusable pre-molded ear plugs are made of plastic, rubber or soft silicone and are offered in standard or hard to fit sizes.



While years ago the economy was oriented more toward disposable products, today Bovi observes a move toward the reusable protectors. "The big push toward the reusable products for economic reasons," he explains.

Custom-molded ear plugs are just that—custom-shaped to fit a user's ear. If properly maintained, they can be used for three or five years. Employees who aren't willing to maintain the equipment, which mainly involves cleaning and storing, should probably opt for disposable protectors.

Ear muffs feature ear cushions, a headband and ear cups, and are offered in a variety of styles. Workers who move in and out of high noise areas may prefer muffs or canal cap protectors because they can be easily donned and removed. "Ear muffs are bulky but effective," says Bovi. "Some people feel they're more comfortable because they don't need to fit exactly into the ear canal."

Where noise levels exceed 105 dBA, however, a combination of ear muffs and ear plugs offers the best protection to the worker.

Canal cap protectors are basically headbands equipped with ear plugs. Many people prefer the headband styles because of their lightweight design.

Training employees to use hearing protection

Offering hearing protectors is only the first step in a hearing protection program. The next step is to make sure the employees wear and maintain the protectors. This requires educating workers on proper use and maintenance methods for the protectors, as well as the effects of not wearing protection.

Insurance companies or hearing pro-

tection manufacturers may offer such training aids as videotapes, brochures and posters. Perhaps an outside speaker can come in and lecture about the hazards of noise. Company newsletters or bulletins are another good source of information. Be prepared to defend the requirements from excuses such as "I'm used to the noise, I've been doing this job for seven years," or "I can't hear other workers." These are only myths. People do not become accustomed to noise, they become deaf.

"People tend to find ways not to do something they're forced to do. It's human nature," says Bovi. "In the same way that some people wear a safety belt loosely over their arm to look like they're complying with the law, the biggest problem of hearing protection is misuse. Hearing protectors need constant and dedicated use. Eventually, you get used to them." Management can also offer motivation by acting as examples of compliance. When entering a high noise area, even if only for a brief period, management should don ear muffs or canal cap protectors in the same way they would wear safety glasses or hardhats when entering a laboratory or construction site.

Remember, only through continued use will employees begin to accept hearing protectors as part of their work routines.

Safety and Health, July 1990

The Last Word...

"To be able to lead others, a person must be willing to go forward alone."

"The volume of paper expands to fill the available briefcases." (*Jerry Brown*)

"Never invest in anything that eats or needs repairing." (*Billy Rose*)

"Experience is a tremendous teacher; too bad it charges so much for its lessons."

"The income tax has made liars out of more Americans than golf." (*Will Rogers*)

"Economists are people who work with numbers but who don't have the personality to be accountants." (*Unknown*)

"There is never enough time, unless you're serving it." (*Malcolm Forbes*)

"True happiness is finding out that your friends took 2,000 photographs of their long vacation trip—with the lens cap on."

"I was not successful as a ball player, as it was a game of skill." (*Casey Stengel*)

"No one should make such thorough preparation for the rainy days that he can't enjoy today's sunshine."

"Why didn't Noah just swat both flies?"

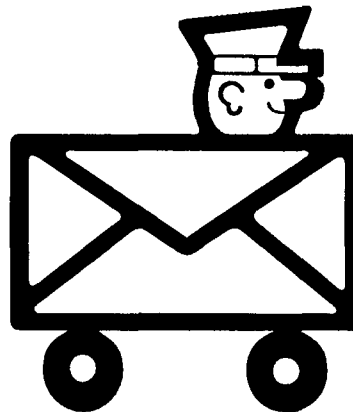
"To live and let live is good. To live and help live is better."

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 your 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



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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