
BULLETIN



May-June 1991



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

KEEP US IN CIRCULATION

The Holmes Safety Association 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.

Welcome New Members

CHAPTER NAME	CHAPTER NO.	LOCATION
3M Little Rock	9143	Little Rock, AR
Packway Materials, Inc.	9144	Hat Creek, CA
Baraboo Concrete Co., Inc.	9145	Baraboo, WI
KY Prince Mining Co.	9146	Hazard, KY
T M Fuels, Inc.	9147	Dryden, VA
Knight Piesold & Co.	9148	Denver, CO
Dutchess Quarry & Supply Co.	9149	Pleasant Valley, NY
Hudson Valley	9150	Gansevoort, NY
Mehlon Trucking, Inc.	9151	Wallkill, NY
Independent Cement Corp.	9152	Catskill, NY
Pike Energy, Inc.	9153	Ashcamp, KY
Nowata County District #2	9154	Lenapah, OK
Nowata County District #3	9155	Delaware, OK
Cotton County #2	9156	Temple, OK
Cotton County District #1	9157	Walters, OK
Beaver County District #1	9158	Gate, OK
Levisa Coal Co., Inc.	9159	Regina, KY
USDOL-MSHA	9160	Grand Junction, CO
Aberry #3	9161	Clintonwood, VA
Freeman Fuels of Kentucky	9162	Robinson Creek, KY

CHAPTER NAME	CHAPTER NO.	LOCATION
Ames Construction – Black Pine Mine.....	9163	Snowville, UT
Ames Construction – Nevada Div.	9164	Carlin, NV
R B M Enterprises, Inc., Mine #3	9165	Elkhorn City, KY
Black Dragon Mining Co.....	9166	Pikeville, KY
Andy Trent Branch Coal Co. Inc.	9167	Grundy, VA
C K & K, Inc.....	9168.....	New Philadelphia, OH
Wagner Mining	9169	Custer, SD
Custer County #2.....	9170	Weatherford, OK
Bach Energy, Inc.	9171	Beckley, WV
Garrett Trucking	9172	Bim, WV
Cricket Mountain	9173	Delta, UT
Hall Brothers	9174	Deane, KY
P C & H Construction.....	9175.....	Jenkins, KY
Washington County Road Dist. #1	9176	Copan, OK
Dana Mining Co.	9177	Morgantown, WV
MFG Trucking.....	9178	Cannelton, WV
Gypsum Resource Development	9179.....	Huntington, UT
C B Holms, Inc.	9180	Shelocta, PA
The Western Lime & Cement Co.	9181	Eden, WI
Capitol Mining	9182	Wise, VA
Upper Laurel	9183	Ghent, WV
D R Billing, Inc.	9184.....	Lanesboro, MA

Holmes Safety Association Monthly Safety Topic



Fatal powered haulage accident

GENERAL INFORMATION: A powered haulage accident took place on the A-1 haulroad of a surface coal mine resulting in the death of a 52 year-old truck driver who had 6 years and 11 months of mining experience.

This mine employs nearly 200 employees in the production of lignite coal. The mine has an annual production of 3.4 million tons and a daily production of 15,000 tons on two production shifts from two active pits.

DESCRIPTION OF ACCIDENT: At approximately 2:20 p.m., the victim left the truck dump site after unloading the coal hauler she was operating. She proceeded to the refueling area to fuel her truck prior to reentering the A-1 pit road for her last load of the shift.

The maintenance man refueled her truck and spoke with her briefly. He indicated that there appeared to be nothing unusual in her manner, but that she had exited the cab and stood on the adjacent walkway while they talked. Apparently the victim failed to buckle her seat belt when she reentered the cab to resume operation.

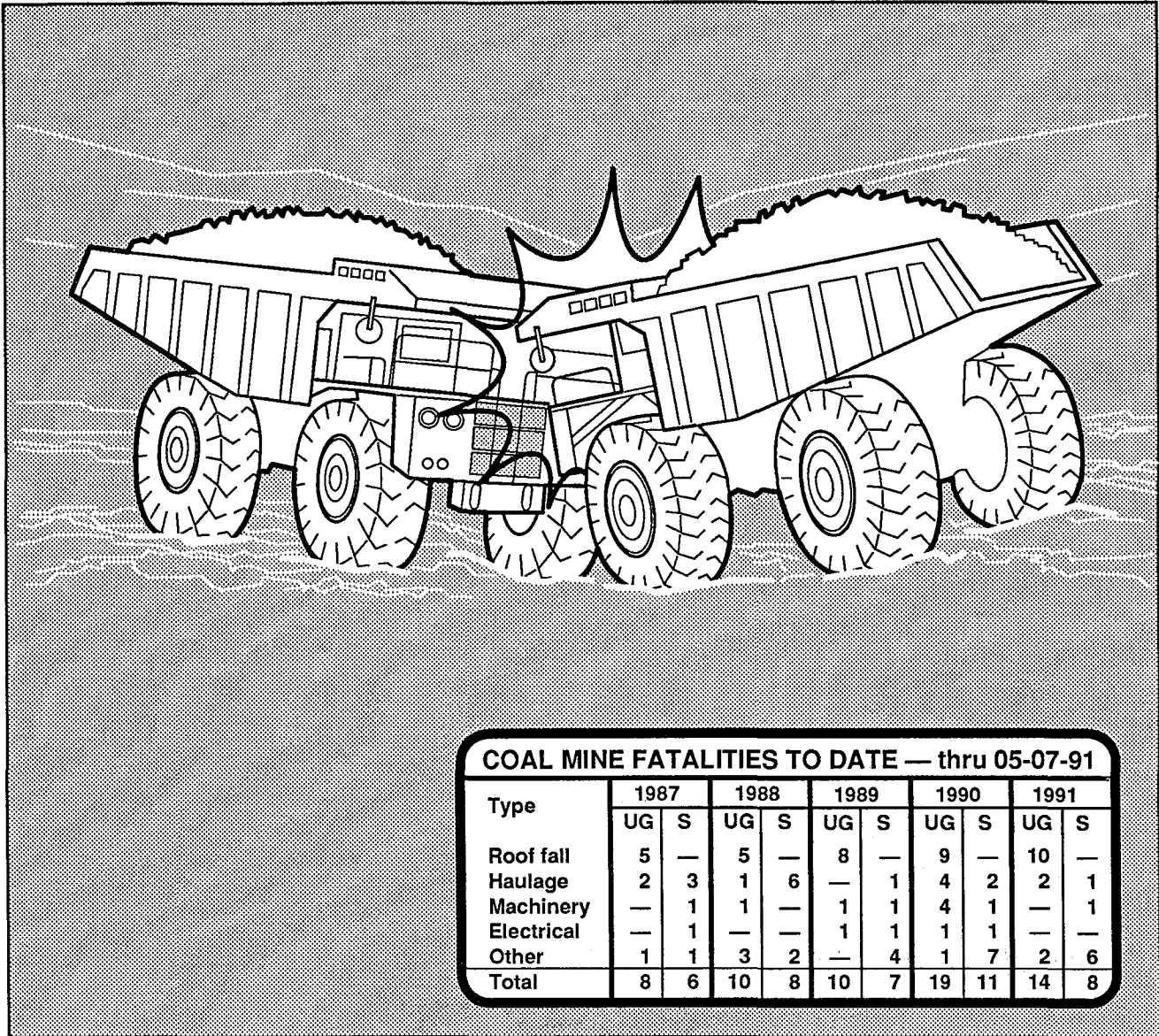
After refueling and while proceeding down the exit to the A-1 haulroad, the victim was contacted on the two-way radio by her supervisor, who was on the G-1 haulroad, and could see her truck. The victim told her supervisor

that she was returning to the A-1 pit for her last load of the shift.

She proceeded to the intersection with the A-1 haulroad where a "yield" sign was present. She traveled through the intersection and into the right lane of the A-1 haulroad. The normal traffic pattern was for trucks entering the haulroad to maintain left hand traffic for about 1/4 mile to the designated lane change area. The victim failed to do this and continued on the haulroad in the wrong lane.

The operator of a second haul truck was traveling from the A-1 pit and was approaching the left curve in the road which led to the dump access road. He saw the victim coming through the curve in the wrong lane and unsuccessfully attempted to contact her by two-way radio. The other driver attempted to avoid a head-on collision by swerving to his right while, at the same instant, the victim swerved to her left. His loaded truck impacted the victim's empty truck on the right side of the cab opposite the driver's seat. She was not wearing a seat belt and was thrown across the cab where her head struck the windshield support post.

The other driver, whose truck was severely damaged, *was* wearing a seat belt and was uninjured. He immediately dismounted and went to assist the victim. He found her lying face



down on the right side of the cab with the radio microphone cord wrapped around her arm. He used the radio to contact the shift production superintendent, who was nearby and arrived almost immediately. The shift production superintendent instructed the other driver to call for an ambulance and then administered first aid to the unconscious victim. An ambulance transported the victim to the hospital where she died the following day of massive head injuries.

CONCLUSION: The accident occurred because the victim did not follow established traffic rules in an area where a lane change was required, and the company failed to adequately and conspicuously mark the designated lane change area. The victim's failure to wear the provided seat belt (company policy) contributed to the resulting fatal injury.

Safe machinery operating procedures

Operators of mining machinery should be fully trained in safe operating procedures and should understand all hazards associated with the use of the machine.

Only *trained and authorized personnel* should operate machinery.

Proper precautions

When operating machinery, you should: Perform a pre-operational check on:

- Brakes;
- Lights;
- Warning devices; and
- Operating controls and panic bar.

Maintain machinery in proper working condition. Any machine operation which does not function properly represents a potential hazard and should be repaired.

Be a defensive operator. Always let workmen in travelways and work areas know when you are approaching.

Exercise care when passing through

mine doors and check curtains, particularly in low coal mines, where visibility is limited.

Never leave unattended machinery running.

Keep machinery controls free of material, debris, or other obstructions.

While operating machinery, maintain a reasonable and safe speed.

Always face the direction of travel while operating machinery.

Keep equipment guards in place while machinery is operating.

Common machinery hazards

The most common injuries result from collisions with other machinery, being caught between two pieces of machinery, being caught in the moving parts of a machine, or being crushed against the roof or rib and the machine.

Virginia Department of Mines, Minerals, and Environment, June 1989.

New video to provide mining information to school teachers

The Colorado Mining Association Education Foundation (CMAEF) has completed filming a video that will promote the "Total Concept of the Mining Industry." This special video about the annual summer teacher program is intended to increase the interest of all teachers—in and out of Colorado—in attending the 6-week course. The summer of 1991 will mark the 23rd year the course has been offered by CMAEF and the Colorado School of Mines (CSM). Most teachers have their tuitions, currently \$450, paid by interested associations.

The course is given at CSM, in Golden, CO, beginning each June. The lecturers

are renowned individuals from the academic and mining world. Usually, one or two field trips introduce the participating teachers to an operating mine or quarry. Many teachers already have some background in geosciences, but few have knowledge of mining. With very few exceptions, enthusiasm for the course has been high—its eye-opening instruction is without equal, according to the graduated teachers. The video is scheduled to be available in early 1991. Interested parties should contact the Colorado Mining Association, 1340 Colorado State Bank Bldg., 1600 Broadway, Denver, CO 80202 or call (308) 894-0536.

Ladder safety: Rules of the rungs

By Melanie Koff

Ralph was caulking storm windows around his home, just as he had for the past 10 years, when the 16-foot extension ladder he was standing on began to slide left. Realizing he had leaned too far, Ralph immediately shifted his weight in the opposite direction. The abrupt jerk caused the ladder to fall backward, and Ralph fell with it. He sustained two broken legs and spent 10 days in the hospital. Ralph now refuses to climb a ladder. Instead, he hires a professional workman for jobs around his house that require a ladder.

Ladder falls caused by a loss of balance, or a ladder placed on a slippery or uneven surface, account for the majority of ladder injuries. Most ladder falls occur during home maintenance chores, such as painting, cleaning gutters or repairing roofs. According to the U.S. Consumer Product Safety Commission, most ladder falls can be avoided since the majority result from consumer misuse.

The Consumer Product Safety Commission reports that more than 90,000 people received emergency room treatment for ladder related injuries in 1988. The Commission also reports that between 1982 and 1985, there were 65 electrocutions involving ladders each year. Some victims lost control of the ladders near power lines. Others misjudged the clearance distance between the power lines and the ladders. Some victims were under the dangerous misconception that power lines were insulated and carried low voltage.

Alan Kline, vice president of the

American Ladder Institute in West Lynn, Mass., advises that you use fiberglass ladders instead of aluminum to prevent the possibility of electrocution. He cautions against using aluminum ladders when it is windy, as wind can blow a ladder into a live wire. Kline says the key to safe ladder use is for you to be a smart ladder user. "You may think you know how to use a ladder right, so you don't read any of the [safety] labels," Kline says.

Size up your choices

Common ladder types are stepladders, straight ladders and extension ladders. Stepladders open into an A-frame. Stepladders are classified as self-supporting and non-adjustable and normally have a bucket shelf to hold equipment. Single or straight ladders have a fixed length while extension ladders have more than one section that you can adjust to different lengths. Unlike stepladders, these are not self-supporting; you need to secure the ladder against a wall or similar support.

Ladders are most commonly constructed from wood, aluminum or fiberglass. Aluminum ladders are the lightest. Wood ladders are quite a bit heavier. While wood extension ladders and stepladders tend to be burdensome, the weight may provide additional stability. Aluminum and damp wood ladders are capable of conducting electricity. If you must work near power lines, you can purchase a fiberglass extension ladder. Fiberglass ladders are heavier and are usually twice

as expensive as aluminum. But the investment is worth it since they do not conduct electricity and are durable.

All ladders sold in the United States must be labeled with one of three weight categories established by the American National Standards Institute:

Type IA is a heavy-duty industrial ladder that is rated to hold up to 300 pounds.

Type II is a medium-duty commercial ladder rated up to 225 pounds.

Type III is a light-duty household ladder that will hold up to 200 pounds.

Before you climb, take into account your weight, clothing and the tools you carry, and compare that total figure to the rating.

Choose the right ladder for the job

A secure, well made ladder is the first step to insure safe ladder use. Keith Robertson manages a hardware store in Ann Arbor, Mich., and recommends fiberglass ladders over wood or aluminum. "Wood can warp or have defects, and aluminum can conduct electricity. If you have the money, buy fiberglass."

Before you buy a ladder, conduct a careful inspection of its construction. Check to see that the ladder looks and feels solid. For wood ladders, check for knots, splits or cracks.

The American Ladder Institute recommends that you purchase a stepladder at least one foot higher than what you will actually need. This will give you a wider, more stable base and will keep tools and materials at a convenient working height.

The vertical working height of an extension ladder is less than the ladder's advertised height because of the

angle at which the ladder is set. A rule of thumb is to measure the distance between the ground and the height needed, then allow for three feet of overlap—for instance, a 16-foot extension ladder has a maximum working height of 13 feet. If the top support is a roof, an additional one- to three-foot ladder extension beyond the roof is recommended. In this case, a 20-foot extension ladder may be needed.

A steel or aluminum folding ladder is an option which offers the ladder user portability and versatility. You can store a folding ladder compactly in a closet and transport it in the trunk of a car. The locking sections can form a straight ladder, extension ladder, platform or scaffold of varying lengths.

Check it out first

Always inspect a ladder before you climb it to insure the ladder is in perfect working order. All rivets, nuts and bolts should be tight. Feet, steps and rungs must be secure. Make sure the spreader and pail shelf function properly. The rungs should be clean and in good condition. Check the ladder for defects, cracks or loose bolts. Don't twist a part into place, or make any temporary repairs or replacements on a ladder. Be just as critical in your inspection when you borrow a ladder.

If you accidentally drop a ladder or carelessly throw it into a truck, inspect it before you climb. Hardware stores do sell ladder replacement parts for the feet and the top of ladders. To transport your ladder, you can purchase a ladder rack that fits vans and trucks or a roof rack that hooks onto car roofs.

Set up before you step up

Carry a ladder horizontally, slightly higher in front and tilting down in back.

An unattended ladder can be dangerous. Place a ladder in front of a door only if you lock or barricade the door, and post a warning sign on the opposite side of the door.

To open a stepladder, make sure the spreader is locked and the pail shelf is in position. To open an extension ladder, brace the bottom end against the wall and push the rungs or the rails up toward the building. Do not place the top of the ladder against a window pane or an uneven surface. Place a ladder's feet on a level, firm surface. Keep away from water, snow or ice. If the surface is soft, place a large board under the ladder (before you position a ladder, check that the feet are dry).

A 20-foot extension ladder has a usable height of 17 feet. Therefore, you should set an extension ladder at the proper angle (75-1/2 degrees). One measure is to prop the ladder 1 foot from the wall for every 4 feet the ladder rises, e.g., a ladder with 8 feet of working height will be propped 2 feet from the wall. Some ladders are equipped with an angle indicating device.

Whenever possible, tie the top of a straight or extension ladder to supports and stake and tie the feet. Hardware stores sell hooks so that you can secure a ladder to a roof.

Be a smart ladder user

A ladder is meant for only one person and should not be overloaded. Do not climb a ladder if you tire easily, are subject to fainting spells, use medicine or alcohol, or

are physically handicapped.

Wear shoes with slip-resistant soles and check to be sure your soles are dry before you climb. Check metal rungs for moisture as they tend to be slippery if wet. To climb or descend, face the ladder and grip the rails, not the rungs, firmly with both hands. Never climb higher than the second step from the top of a stepladder, or the third rung from the top, when you climb a straight or extension ladder.

Keep the ladder close to your work area so you don't have to lean or reach too far to either side. Keep your body between the rails at all times. If you need to shift to a new position, get down and reposition the ladder. Use a tool belt, work apron, or hand line to raise and lower tools and materials. Add a hook to a rung to hang a paint can.

For added safety, ask someone to secure your ladder from the ground while you use it. Always have a person steady a ladder from the ground if there is any question about the ladder's stability or if it's a windy day.

You should store all ladders in a sheltered place away from heat and moisture. Never store materials on a ladder. While you should not paint a wood ladder because it will mask defects, do treat it annually with wood preservative. If you hang a straight or extension ladder horizontally, make sure it is supported at enough points to prevent sagging.

Destroy a ladder if it appears broken or worn, or if it has been exposed to fire or chemical corrosion. Dispose of a ladder that seems unsteady or has structural damage. If a ladder is not in proper working condition, inspect and repair it immediately or dispose of it so that it can't be used by someone else.

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Captain or slave??

It's a strange thing about an accident. Before it happens, maybe a mere moment before, you're the top person, the one who's got the say, "the captain of your soul."

But the split-second an accident happens, everything changes. All at once you're at the bottom, the poor devil who gets it. Either you're not a whole person any more, or you're in for a long stretch of pain and costly repairs, or you're nothing.

An accident can be as final as a firing squad, as complete as the gas chamber, as efficient as the hangman's noose. Yet in those moments before it happens-when you're still on top-there are probably a number of things you could do to prevent the accident.

Sometimes it's the mere lifting of a finger, the glance of an eye, the decision to do, or not to do. Sometimes it's walking a few feet to tag and/or lock out a switch, or get a better tool, or a

better look. Maybe it's spending a few seconds to wait for the "walk" signal or to ask a question of someone who knows, or to get a long and clear view before you pass the car ahead. But if you fail to do the right thing, or blunder ahead on the wrong thing, then comes that exploding moment of shock, agony, blackness. And after that, too often there isn't a power on earth that can undo what has been done. The scientist, the surgeon, the greatest of human intelligence and skill can do nothing more than mop up the mess.

And the main point is that now, while you read this, it's before the accident.

You're the top person right now. You've got the final say. It's all pretty much in your hands. So, which is it going to be: "Captain of your soul" or slave to suffering and sorrow?

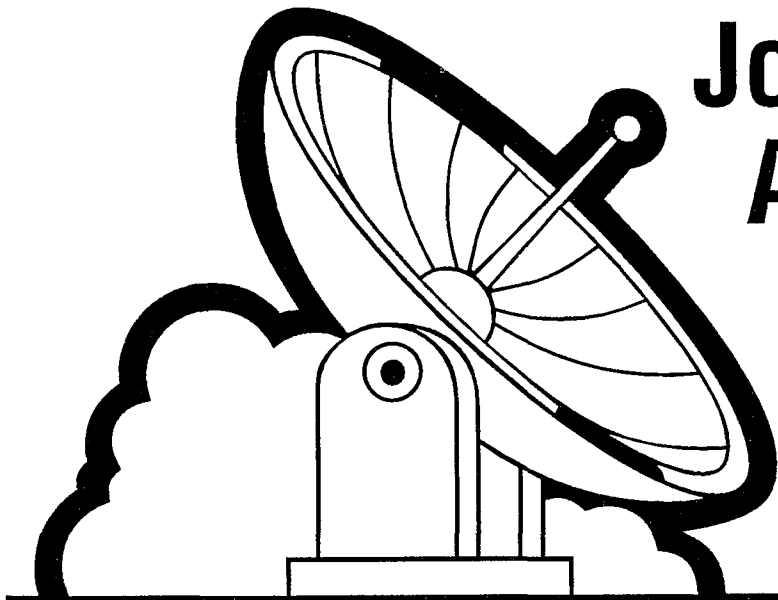
Nevada, Mine Safety Sense, Jan-Mar 1991.

Comments on the JSA Teleconference

Baton Rouge Regional Technical Institute, Baton Rouge, LA, was Louisiana's site facility for the JSA Teleconference this past February 14, 1991. There were 35 people that participated from mining industries, including metal/non-metal, coal (lignite), aggregate associations, contractors, educational agencies, and MSHA field and district personnel.

Pre-teleconference programs included a discussion of Title 30 regulations and a preview of the JSA Teleconference.

Participants in the teleconference were enthusiastic, active in their commentary, and seemed to have a genuine interest in pursuing the JSA concept as described in this program.



Job Safety Analysis comment

Florida Rock Industries,
Incorporated,
Aggregates Group

Florida Rock's Aggregate Group has 25 operations scattered over two states. We are really like a collection of small operations as compared to a large company.

The Aggregates Group has been doing JSAs for over 5 years. We have used them in the development of training and as a tool to address specific questions. We used the process and format found in training materials from the MSHA Academy. Completed JSAs have been shared with other operations as needed.

We did our first JSAs on the most hazardous jobs at operations where improvement was most needed. We used a three step approach:

1. A safety coordinator completed a JSA with an employee.
2. The supervisors did a JSA with the safety coordinator's help.
3. The supervisors began doing all JSAs on their own.

Our training system is based on individualized training. It was devel-

oped with the cooperation of John English, retired Director of MSHA's Educational Policy and Development group.

We have used a lot of MSHA training materials in developing our training materials and JSAs. Our JSAs have been done mostly where there was a specific need. They have been an effective tool to cause supervisors and employees to look at how work is done and find solutions to hazards. JSAs have been effective in helping supervisors learn the detail of jobs; thereby building safety awareness. The result has been a decrease in accident rates—and these rates have remained low.

We do not have JSAs for all operations. We do not plan to do JSAs on all tasks or jobs. That would be a massive undertaking. We plan to keep JSAs as a tool available to our operations.

We are currently concentrating our efforts on the development of Task Training Handbooks (TTHs). They are developed using a combination of

MSHA training materials, JSAs, our most knowledgeable people, operators' manuals, interviews and technical references. These books are training outlines on major job groups. The trainees' supervisors use the TTH to plan, organize and control individual employee training. Each supervisor uses the general outline, but tailors the content to the individual employee's responsibilities and equipment. We chose the MSHA Academy's Safety Manual size as the size of our finished product.

One of the challenges of JSA is achieving consensus on what constitutes a "job." To most people a "job" means the person's occupation like truck driver, plant operator, maintenance person, mechanic or electrician. These occupations actually may be made up of dozens of jobs. In the case of mechanics, maintenance personnel, or electricians there may be hundreds of jobs. Each job varies with the type of equipment and the operation. The process of identifying and starting with critical jobs is a vital first step of the JSA process.

The biggest challenge in JSA is the small operation. Large operations may have many employees doing the same job. Small operations often have one person who is front end loader operator, plant operator, quality control person, maintenance person, etc. Within each of the tasks are many different jobs to be performed. A supervisor may be responsible for 8 employees, each doing 10 tasks, made up of 25 jobs. The supervisor is responsible for the development of the procedures, conducting the training, and analyzing the jobs. This makes a formal JSA program

that is job specific, on all jobs, difficult to accomplish.

MSHA should consider the following suggestions:

1. Write JSA instructions and training materials on two levels. Materials should be developed that work for the first line supervisor and his employees in a small operation. The material should be simple and easy to read and use. Second, provide materials that an organization can use to implement a JSA program as part of its overall safety effort.

2. Write JSAs for everyone, including individuals with limited education and those who do not like to read. The production of video materials and easy to use hand-outs should be considered.

3. Develop materials that help the employee and his leadership understand the need to break JSAs down to the component job. Some current materials leave the impression that doing an analysis of a position such as a mechanic is simple and can be done on three pages. Actually, one job the mechanic does is relatively simple to perform. Materials should show how one JSA is part of a set that makes up task training.

4. Produce materials that clear up the questions of job, task, and occupation. The definitions of these terms should be consistent with MSHA, the Department of Labor, and national safety organizations.

Thank you for this opportunity to comment.

H.W. (Bill) Walton, Safety & Training Director, Florida Rock Industries, Inc., Brooksville, FL

Announcing the 26th Annual Arizona Chapter National Council Southwest Safety Congress May 29-31, 1991

Join us on May 29-31, 1991, for another outstanding Safety Congress and Exposition that will benefit you and your company—both now and in the future. The Congress will present many sessions to enlighten attendees on the latest safety techniques that have been proven to reduce accidents. You will also be able to view the region's largest display of safety products and seminars.

The topics to be covered at the Congress are applicable to many safety settings and include, among others, the following specific sessions: *Deep Mine Safety; Update of Radiation Regulations; Draeger Benchman Training; Fire Protection Relative to Mining; Safety Programs—Mines; Asbestos Removal and Abatement; MSHA and S&S Citations; and Drugs and Alcohol in the*

Workplace. The following general topics are covered by a number of specific sessions that are too numerous to list here: Construction; Environmental Concerns; Manufacturing; Municipal; Special Interest; and Transportation.

In addition to outstanding sessions and exhibits, all attendees and their companies will benefit from the ability to discuss their approaches to safety with other attendees.

If you're interested in the safety of your employees, plan to attend the 1991 Congress at the Phoenix Downtown Sheraton on May 29, 30, and 31.

For further Safety Congress information call: Toni Taylor at (602) 264-2394. For room reservation call the Sheraton Phoenix Inn at (602) 257-1525 and indicate that you are attending the Safety Congress to receive a special rate.

Holmes Safety Association Coal River Council

Highlights of February meeting

There were 33 members present for our February 12, 1991, meeting held at the Park Avenue Restaurant in Danville, WV. Jerry McBride, President of Austin Industrial Coatings, gave a presentation on the applications of mandoseal and fibercoat in the coal industry. Don Ellis reviewed accidents and statistics with particular attention devoted to an accident involving a contract trucker.

Among others, the following items were addressed under *new business*:

- Terry Hudson was appointed chairman

of the Mine Rescue Meet to be held on June 8, 1991.

- The subject of erecting a statue honoring Boone County coal miners in Madison was reopened, and it was decided that this matter would be diligently pursued.
- Joe Wills will send out applications to member companies and organizations asking for anyone's name who has worked 30 plus years without an accident in order to recognize these individuals for their accomplishment.

Marie Wills, Secretary

Top salt safety honors for 1990 records won by Cargill, Inc., and Western Salt Company

Washington, DC, April 2, 1991 —Top salt industry honors for company-wide 1990 safety performance records have gone to Cargill, Inc., of Minneapolis, MN, for the industry's lowest incidence rate and to Western Salt Company, of San Diego, CA, for the lowest severity rate.

The companies were recognized in the annual competition for salt mining and processing facilities, which is conducted by the Salt Institute (SI). Additional SI Safety Contest awards were presented to eight salt facility sites for their individual 1990 records in incidence and severity at the Institute's recent annual meeting in Sarasota, FL.

In announcing SI Safety Contest winners, president Richard L. Hanneman said he is "pleased with our industry's overall commitment to reducing deaths and injuries from on-the-job accidents. Each of our members is making a deliberate effort to train new employees in the safest procedures possible, and to continuously re-emphasize them [safe procedures] with experienced workers."

Using monthly figures reported to the Federal Mine Safety and Health Administration and the Occupational Safety and Health Administration, the Institute has traced fatality records for each category since 1974.

Accepting an engraved silver bowl as winner in the Severity Rate Category for Cargill was Tyrone K. Thayer, president of the company's Salt Division. Accepting for the Western Salt Company in the Incidence Rate Category was executive vice

president David L. Vickers.

Winners receiving plaques in categories for individual facilities were:

- *The Canadian Salt Company's Pugwash Mine in Pugwash, NS;*
- *Cargill's Watkins Glen Facility in Watkins Glen, NY;*
- *Canadian's Pugwash Evaporated Plant in Pugwash, NS;* and
- *North American Salt Company of Mission, KS,* for Terminals and Warehouses.

For the lowest severity rates, winners were:

- *Canadian's Ojibway Mine in Windsor, ON;*
- *Cargill's Watkins Glen Facility in Watkins Glen, NY;*
- *North American's Grantsville Facility in Grantsville, UT;* and
- *North American Salt Company of Mission, KS,* for Terminals and Warehouses.

The "Severity Rate" is the number of lost workdays per 100 full-time workers. The "Incidence Rate" is the number of reportable injuries or illnesses requiring medical treatment per 100 full-time workers.

The Salt Institute, which was founded in 1914, is the American trade organization for the world's salt producers. It provides research, information, government representation and consumer relations services related to salt uses for human nutrition, highway deicing, water conditioning, agricultural animals and industrial processes.

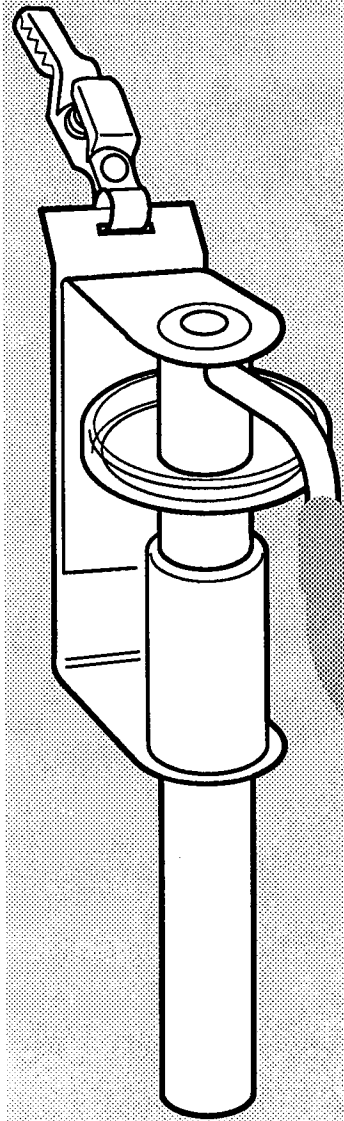
Salt Institute News Release, April 1991.



**You can't see beautiful music
to appreciate it...**

YOU HAVE TO HEAR IT!!

PROTECT YOUR HEARING



**TAMPERING
with respirable
dust samples
can be a
criminal
offense!**



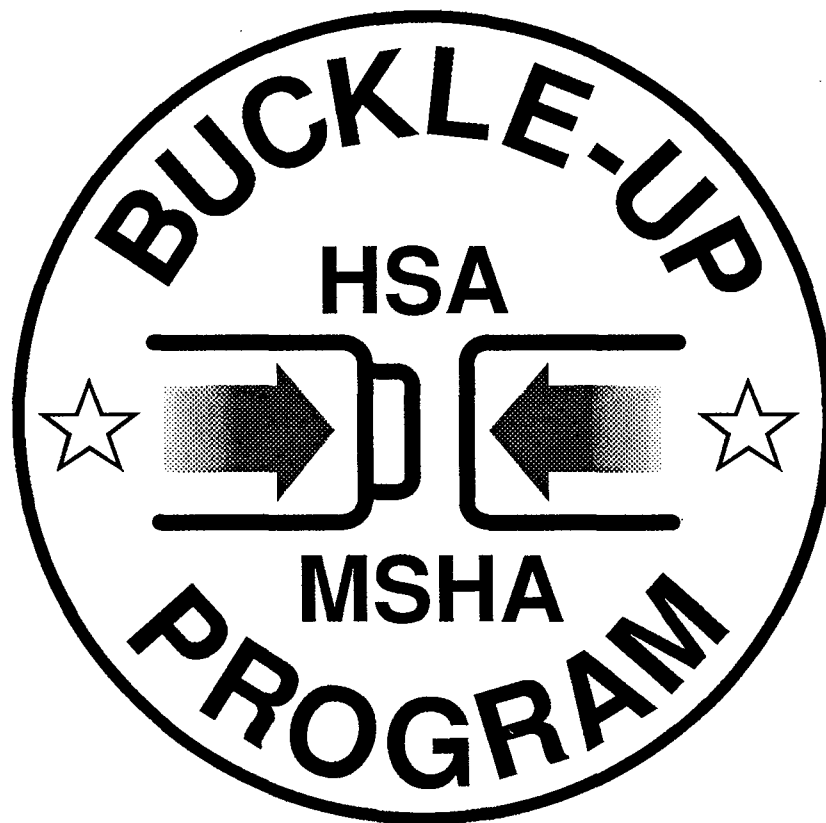
**REPORT
any tampering
to MSHA.**



U.S. Department of Labor Mine Safety and Health Administration
Call 703-557-2020 to report tampering

Announcement:

HSA Buckle-Up Program



The Holmes Safety Association (HSA) Buckle-Up Program is dedicated to saving lives and preventing injuries through promoting the acceptance and use of seat belts throughout the mining industry. The Buckle-up Program recognizes those mine and contractor employees who have escaped more serious injury because they were wearing a seat belt at the time of a work related accident on mine property.

Recognition

Qualified individuals will receive a Certificate of Recognition and a special decal identifying them as a participant in the Buckle-Up Program. Where possible, certificates and decals will be presented at local HSA meetings by an officer of the local HSA organization or a national HSA representative. Additionally, individual experiences, including photographs if

available, of escapes from injury due to the use of seat belts may be written up in the monthly *HSA Bulletin*.

Nomination criteria

1. Employee must have been wearing a seat belt at the time of the accident.
2. The accident must have occurred on mine property.
3. The employee must have been engaged in work at the mine site.
4. Nomination must be submitted to HSA in accordance with procedures outlined below.

Nomination procedure

Nomination for recognition in the Buckle-Up Program should be submitted directly to:

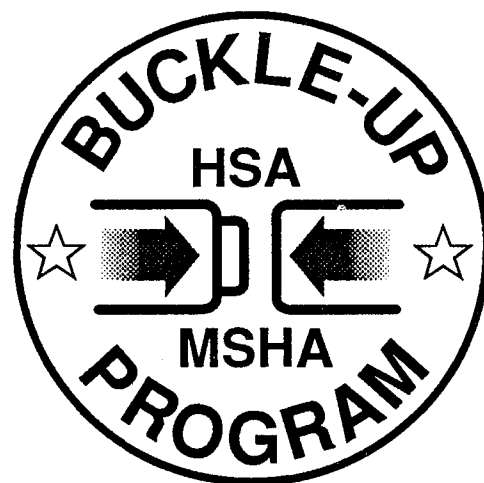
Holmes Safety Association
c/o MSHA Academy
P.O. Box 1166
Beckley, WV 25802-1166

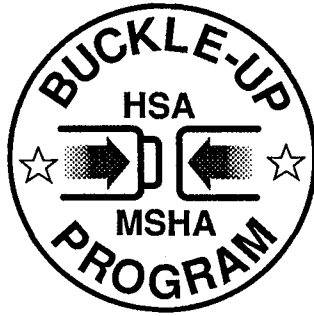
Nominations will be accepted directly from the employee involved in the accident, the employing company, the local MSHA office, or from a local HSA chapter or council.

Nominations must include the following information (see attached form):

1. Name of employee nominated for recognition
2. Date of accident (must be after 9/30/89)
3. Place of accident
4. Mine/contractor ID number
5. Company name

6. Company address
7. Full description of accident (copy of MSHA accident report is acceptable) and a statement of the estimated seriousness of injury had a seat belt not been in use at the time of the accident
8. Name and title (if applicable) of proposing individual
9. Company name/MSHA office/HSA council (whichever is applicable) and address
10. Signature of proposing individual
11. Signature of employee or proposing individual (whichever is applicable)
12. Any photographs of the accident (if available)
13. Date nomination submitted to HSA. Nominations will be reviewed by HSA, which reserves the sole right to determine the qualification of all nominees. In instances where questions concerning a nomination arise, HSA will utilize local MSHA personnel to determine the specific circumstances related to the nomination and to provide this information to the HSA for appropriate action.





Buckle-Up Program Nomination for recognition

(Name) _____ escaped serious injury by wearing a seat belt at the time of a vehicular accident while performing authorized work on mine property. I hereby nominate the above for appropriate recognition.

History of accident

Date of accident (must be after 09/30/89) _____

Place of accident _____
City State/Zip Code Country

Mine name _____ Company name _____

Mine/contractor ID number -

Full description of event (copy of MSHA Accident Report is acceptable) and estimate of extent of injury had seat belt not been in use.

Proposed by _____

Title _____

Company name/MSHA office/HSA council _____

Company/MSHA/HSA address _____

City _____ State _____ Zip Code _____

I hereby certify the statements made above are true to the best of my knowledge.

Signed Date

Mail to: Holmes Safety Association
c/o MSHA Academy
Box 1166
Beckley, WV 25802-11661

Seat belts really work!!!

On October 3, 1989, Clarence Bostic, at age 61, was making his third trip of the day in a 35 ton haul truck. He had 43 years mining experience with 20 years as a haul

truck operator at this mine. Mr. Bostic was hauling broken quarry stone from the middle bench to the calcite plant. While travelling up a 6 percent grade with the truck empty, approximately 300 feet from the middle bench, the steering wheel suddenly jerked from his hand as if he had hit a rock. The truck turned sharply to the right, plowed through the berm and plummeted over the edge of the 55 foot highwall. The haul unit made a hole approximately 20 feet wide in the berm before plunging down onto the lower bench, landing on its nose and then flipping onto its left side. The truck received extensive damage. Another haul truck driver and the superintendent raced to the site of the accident and found Mr. Bostic sitting on a



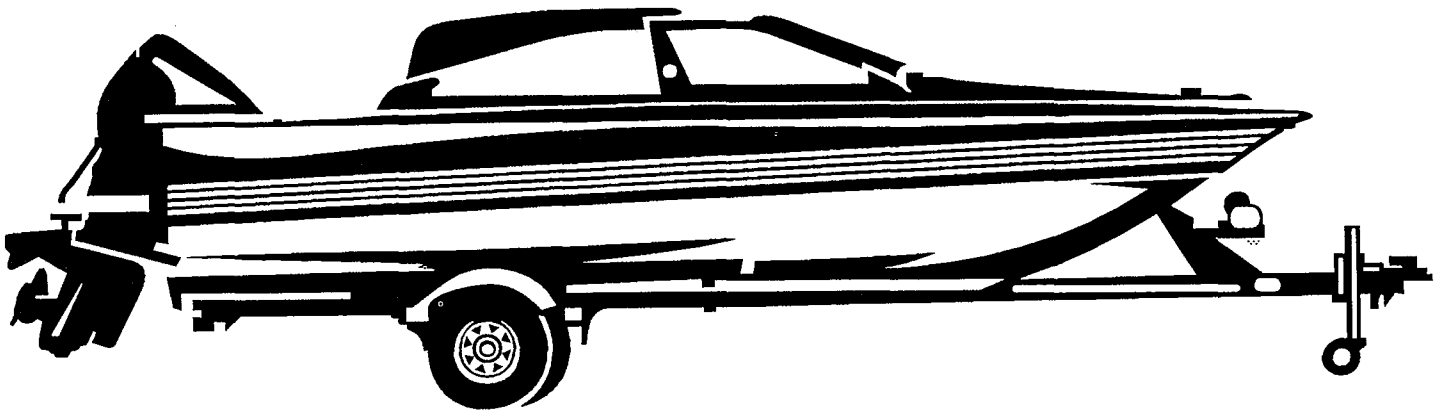
Looking down to where the truck finally came to rest from the top of the highwall.

rock complaining of pain in his left knee. Because he had his seat belt buckled he had sustained only minor injuries.

According to the physician at the hospital, the major injury suffered was a shattered left kneecap. Mr. Bostic also suffered some minor injuries to his lower back. The doctor felt that the shattered kneecap was probably caused by the impact of the vehicle when it landed on the quarry floor, and the lesser back injuries were probably the result of the buckling action of the seat belt during impact. The doctor stated that the back injuries were minor and that the seat belt probably saved Mr. Bostic's life.

Evidence indicates that Mr. Bostic would have been slammed into the dash or through the windshield upon impact had the seat belt not been worn. Massive head and chest injuries were certain to have resulted. Instead of possible death or permanent disabling injuries, Mr. Bostic was able to retire in 1990 and enjoy the rest of his life without any handicap.

We tip our hat to Clarence Bostic for helping to prove that *seat belts do work*. We are pleased to award him a certificate and hat decal attesting to the value of seat belts.



Know before you go, boating safety counts!

Providing a means of irrigation, transportation, and energy production, the waterways of the United States have played an instrumental role in the development of American agriculture, commerce and industry. Over the years, however, our country's most beautiful and accessible waterways have also become important centers of recreation. Indeed, it is estimated that, during this year alone, more than 19 million recreational boats will navigate America's lakes, rivers, and coastal waters.

While boating can be a wonderful source of recreation, improperly handled watercraft can be dangerous or even deadly. Tragically, about 900 persons die each year in boating-related accidents on our nation's waterways. Because most accidents can be prevented, the U.S. Coast Guard and other government agencies are working with volunteer organizations around the country to educate the boating public and to make safety the first priority of all who use the nation's waterways.

During **National Safe Boating**

Week, June 2-8, 1991, proclaimed annually at the start of the summer boating season, recreational boaters are urged to accept the responsibility to "Know Before You Go." Every pilot should have thorough knowledge of his or her vessel and the rules and courtesies of navigation. All boaters should know the marine environment in which they will be operating, as well as the prevailing and forecasted weather conditions in the area. Making boating safety the first priority also requires that boaters be prepared to respond, immediately and effectively, to any hazardous situation that may arise; it requires that all persons using watercraft be equipped with life jackets; and, of course, it requires that no one operate a watercraft while under the influence of alcohol or drugs.

By making safety the first priority, we can put tragic boating accidents behind us and enjoy more fully the beauty and excitement of the open water.

*George Bush, President of the United States
From a proclamation published in the Federal Register,
Volume 56, Number 63, April 2, 1991.*

Holmes Safety Association Monthly Safety Topic



Fatal powered haulage accident

GENERAL INFORMATION: A plant and equipment operator, age 31, was fatally injured when the haulage truck he was driving rolled backward over a highwall and he either jumped or was thrown out. The victim had a total of 12 years 8 months mining experience, all as a plant and equipment operator at this operation.

The mine was a crushed limestone operation. The limestone was mined by a multiple bench method. Standard quarrying procedures were used to drill, blast, load and haul the material to a processing plant where it was crushed and sized.

Employees at this operation, including the victim, had not received training in accordance with 30 CFR Part 48.

DESCRIPTION OF ACCIDENT: On the day of the accident, the victim reported for work at 6:30 a.m., which was 30 minutes prior to his regular starting time. A short time later, he received instructions from the foreman and began his normal work routine.

At 8:30 a.m., the foreman stopped the victim and gave him a package of donuts and a can of soda for his routine breakfast break. Reportedly, the foreman observed that the victim was wearing his seat belt. The victim hauled approximately 11 loads of rock to the crusher.

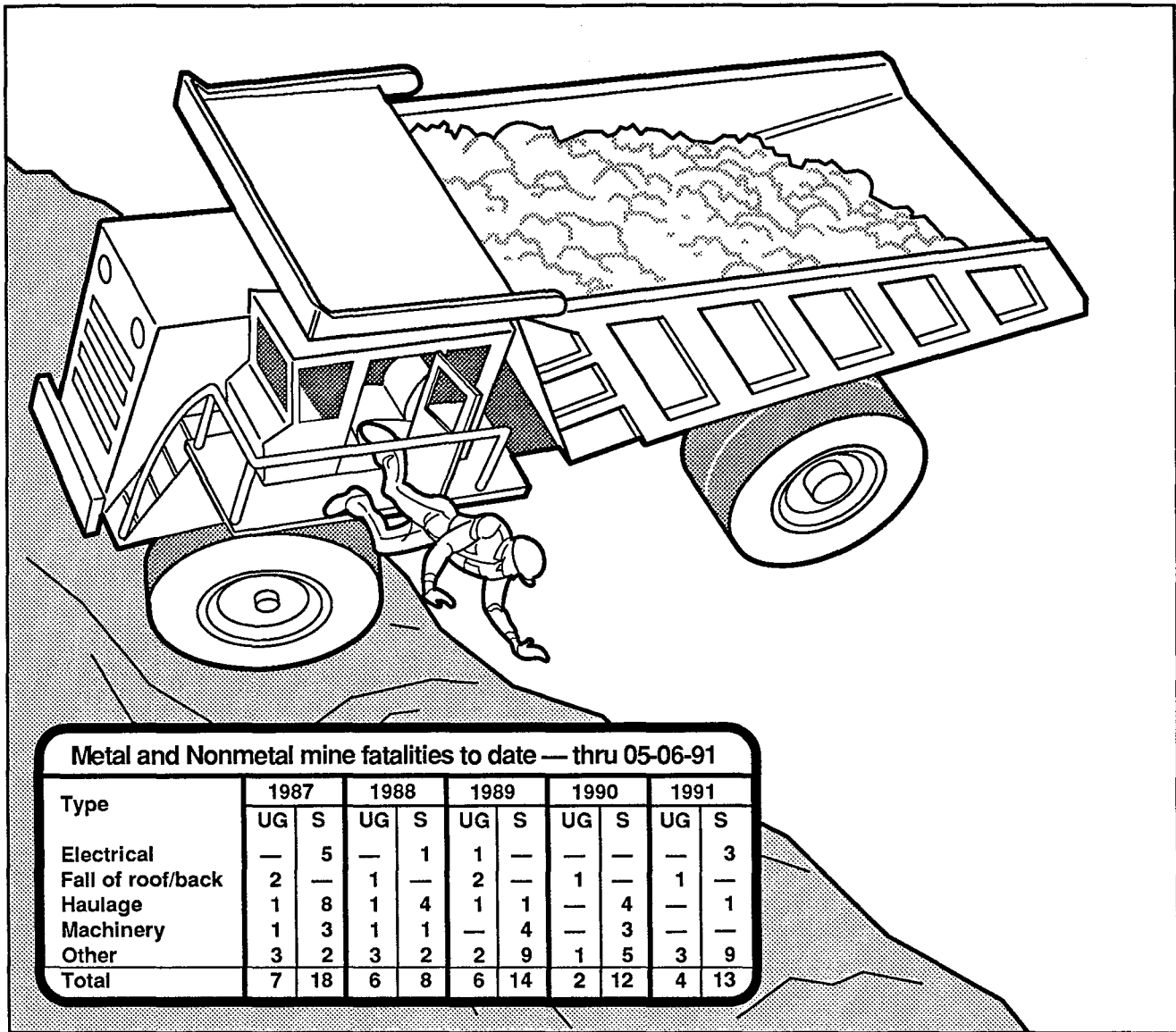
At about 9:40 a.m., the foreman radioed to the front-end loader operator to take the two trucks to the waste pile located behind the primary crusher and load the trucks with waste material to be hauled to the spoil pile.

The front-end loader operator stated that he loaded about 50 tons of waste material onto the victim's truck (company policy was to load the trucks lighter when they were hauling to the spoil pile). He observed the

victim pull the first incline from the third to fourth bench, which was approximately 200 feet long on a 22 percent grade, without any trouble. He watched as the truck went up the second incline toward the spoil pile. When the truck was approximately half to three-quarters of the way up, he turned his head away momentarily. When he looked again, he saw the truck lying on the first bench at the north end of the quarry.

The driller and driller helper, employed as independent contractors, were drilling a shot on the first bench at the south end of the quarry. They heard a noise, looked up and saw the truck as it was descending backwards approximately 30 feet below the top of the north wall. They stated the truck followed the slope of the wall down from the fourth to the third level bench and then the end of the bed struck the second level bench. At this point, the bed came off and flew away from the chassis and cab. The truck flipped backwards and landed on the first bench upside down. The driller said he saw something red in color fly through the air as the truck struck the second level bench. Apparently, this was either the victim jumping or being thrown from the vehicle. Both men stated they heard the impact above the noise of the drill although they were wearing ear plugs. The driller ran toward the crusher waving his arms to signal a pickup truck traveling to the accident site. The drillers were over 1,000 feet from the accident site.

The foreman stated he was in the primary crusher electrical switch gear room with two others when they heard a loud noise and went outside. He saw the bed of the truck falling but could not see the truck chassis due to the large amount of dust being generated from the accident.



All three men proceeded to the accident site but could not immediately locate the victim. They discovered the victim lying face down approximately 60 feet west of the truck in a pile of rocks. A rock measuring approximately 15 by 15 by 4 inches was on the victim's head and shoulders. After removing the rock, the foreman checked for a pulse, but none could be detected. He instructed the two men not to move the body while he radioed the superintendent, at the plant office, and asked him to come to the bench. The superintendent proceeded to the accident site and then radioed the office clerk to call 911 for emergency help.

At about 10:30 a.m., the local fire department and an ambulance arrived. The rescue

team checked the victim for a pulse but none could be detected. The county coroner pronounced the victim dead at the scene a short time later.

CONCLUSION: The accident was apparently caused by power failure of the haulage truck. The exact cause of this could not be determined conclusively. However, subsequent laboratory examination of a fuel sample revealed a heavy concentration of an unidentified particulate. This particulate in the vehicle's fuel may have caused plugging of the fuel system, resulting in fuel starvation. Lack of knowledge of the supplementary steering system and training in its use was a possible contributing factor.

First aid



Don't let the summer heat get you down

Summertime can be described as the peak of the work and play seasons. It is a time when outdoor activities are the order of the day. This is also the time of year when the temperature reaches its peak. While working in the heat often stresses workers' tolerance and patience, the discomfort of the heat brings some potential health concerns. As the first heat spells hit, most workers recognize the signs of heat stress as their bodies attempt to adjust to the warmth. Large volumes of perspiration, a pounding heart, and a feverish feeling, warn of an overload on the body's systems. Particularly hardest hit are obese workers, older workers, and workers with circulatory or pulmonary difficulties.

Strenuous physical labor can produce 10 to 20 times the amount of internal heat a body generates at rest. The metabolic production of heat by the body, combined with high temperatures in the work environment, places a strong demand on the body's temperature-regulating mechanisms. As the body attempts to regulate its internal temperature, the heart begins to pump more blood, the blood vessels expand, and blood circulates closer to the surface of the skin. If internal temperature continues to rise, the brain signals the sweat glands to shed large volumes of sweat. Sweating is the most important temperature regulating process the body possesses. A body at rest will shed 1 liter of fluids per day,

while the stress of hard work and high temperatures can cause that same body to shed as much as 1 gallon in as little as four hours. The brain, the active muscles, and the internal organs receive smaller blood flows. Important minerals and salts are drawn away as the body copes with the large fluid losses. This is when we notice that fatigue sets in, alertness and mental capacity are diminished, and thoughts turn to a cool drink and a shady spot.

Particular heat-related problems to be aware of include: *heat cramps*, *heat exhaustion*, and *heat stroke*.

Heat cramps are rarely serious and rarely long lasting. Muscle contractions in the arms or painful spasms in the legs or abdomen are common symptoms. Rest, allowing the person to cool off, and giving water (some medical information suggests mixing small amounts of salt and sugar with the water is helpful), are usually all that is necessary.

Heat exhaustion is the most common heat-caused illness. It is essentially a mild form of shock. The symptoms are pale and clammy skin, profuse sweating, rapid and shallow breathing, rapid and weak pulse, nausea, weakness, dizziness, and/or headache. Treatment for heat exhaustion is similar to treatment for shock. Remove the person to a cool and comfortable place. Small amounts of water may be given and the person should be allowed to lie down, preferably with the feet elevated slightly. Heat exhaustion is usually mild and soon reversed; however, if the faint feeling persists and normal skin color does not return, medical assistance should be sought.

Heat stroke is the least common heat-caused illness, but it is the most serious. Heat stroke occurs when the body's normal mechanisms for cooling itself, such as sweating, dilation of the skin capillaries, and respiration, are overwhelmed. The skin of a heat stroke victim is hot, flushed, and dry. A heat stroke victim's pulse will change from rapid and strong to rapid and weak, as their conditions worsens. Heat stroke is a true, high-priority emergency.

A heat stroke victim should immediately be removed to a cooler environment, and their body should be cooled off in any way possible. This could be anything from immersing them in a tub of cold water, to covering them with a cool damp sheet. A victim of heat stroke may rapidly lose consciousness and may experience convulsions. A heat stroke victim should have trained medical attention as soon as possible.

The most important thing to remember when working in the stressful summer conditions of high temperatures and high humidity is to go slow at first. Let your body get used to the conditions. Some other tips to remember are:

- Discard excess clothing.
- Be sure to drink lots of water, and avoid alcoholic beverages which cause dehydration.
- When possible, schedule the heaviest jobs for the coolest portion of the day.
- Take frequent short breaks.
- Make sure that all employees understand the signs and symptoms of heat-related disorders.

Wisconsin, Mine Safety News, May 1990, Vol. 3 No. 3.

Blisters

A blister is a collection of fluid in a "bubble" under the outer layer of the skin. If not infected, blisters usually heal in 3 to 7 days.

Signs and symptoms

- Fluid collection under the skin's outer layer
- Pain resulting from touch or pressure
- Swelling and redness around the blister

First aid

After a blister forms, prevent further injury and reduce pain from pressure by covering small blisters with an adhesive bandage. A large blister should be covered with a porous, plastic-coated gauze pad (which allows the area to breathe) or a stack of gauze pads cut in a doughnut shape to dissipate pressure upon the blister. Whenever possible, *do not* break a blister.

When a blister must be broken because of pain:

- Wash the area with soap and warm water. Dry and swab the area with 70% rubbing alcohol.
- Make several small holes at the base of the blister with a sterilized needle. Sterilize the needle by either soaking it in rubbing alcohol or holding over a match flame until it gets red. Let it cool before using.
- Drain the fluid by gently pressing the blister's top. *Do not* remove the blister's roof. In some cases, the blister may have to be drained several times in the first 24 hours. Apply an antibiotic ointment over the site and cover with a sterile dressing to protect the area from further irritation. After several days, "unroof" any dead skin by using tweezers to lift the skin, and cut it away with scissors. Reapply antibiotic ointment and a sterile gauze dressing.

- If a blister has ruptured and its roof is gone, apply antibiotic ointment and a sterile gauze dressing. All ruptured blisters should be cleaned with soap and water to prevent infection.

- Check daily for signs of infection (redness or pus). See a doctor if the blister becomes infected. These procedures apply only to friction blisters—*not* to blisters formed from burns, frostbite, or contact with poisonous plants.

First aid blister quiz

Choose the best answer.

1. After a blister forms, what should be tried first?

A. Drain the blister by making a small hole at the blister's edge.

B. Use scissors to remove the blister's top.

C. Cover with gauze or gauze pads cut into the shape of a doughnut.

2. When can a blister be broken?

A. When very painful.

B. At least 3 days after its appearance.

C. Never by a first aider.

3. Which is the proper procedure for breaking a blister?

A. Cut the entire roof of the blister off.

B. Drain the fluid by making small holes at the blister's edge.

C. Use a red-hot paper clip to puncture the skin.

D. Pinch or squeeze the blister off.

E. Soak the blister off in hot water.

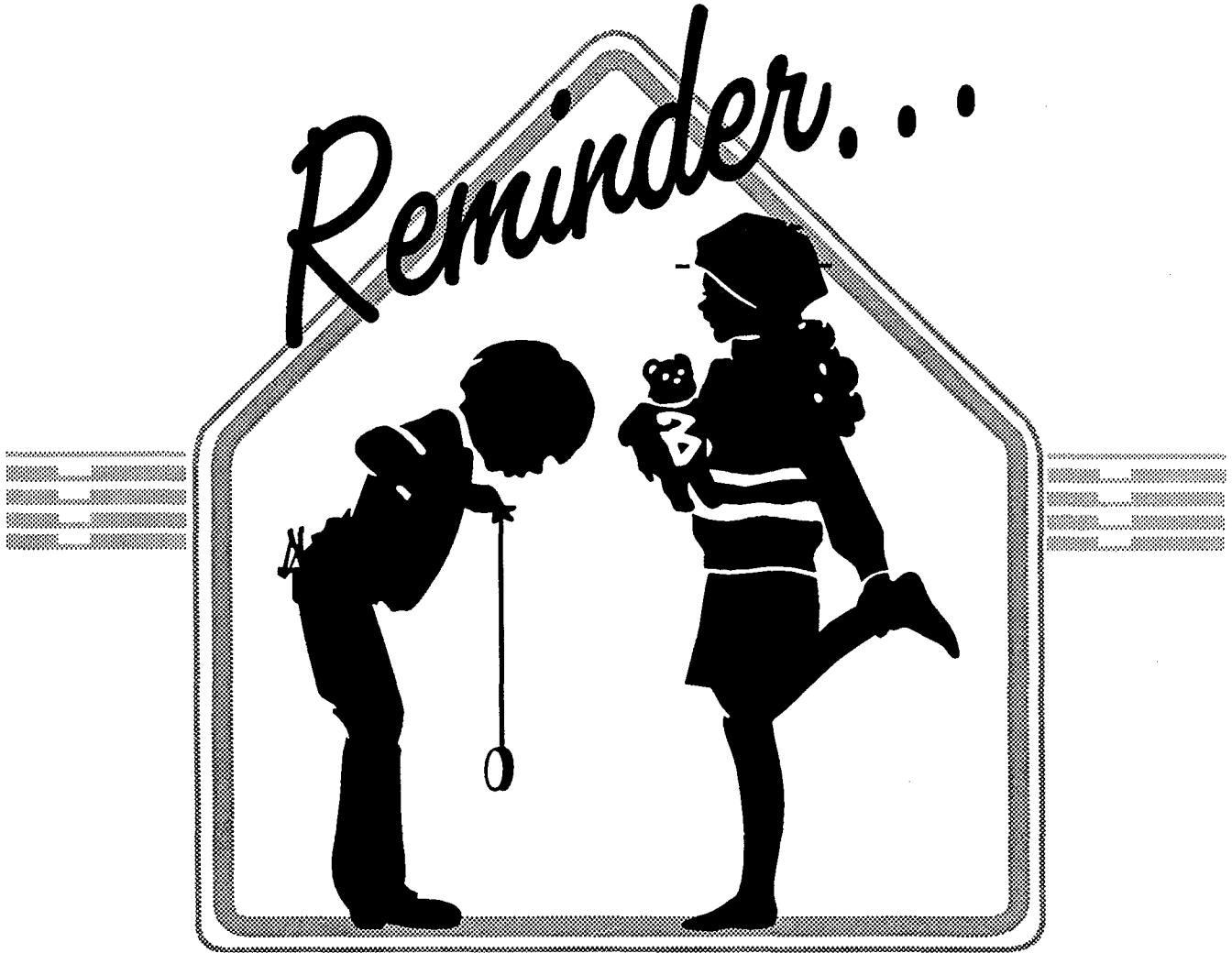
F. None of these, since blisters should never be broken.

ANSWERS: 1. C 2. A 3. B

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HOLMES SAFETY ASSOCIATION

Reminder...



STOP! LOOK! LISTEN!

School's out for summer

Mine safety research highlights

New pillar design decreases occurrence of coal bumps

Scientists at the Bureau of Mines Pittsburgh Research Center (Bureau) have developed a new coal mine pillar design that reduces the occurrence of dangerous coal mine bumps. The Southern Appalachian Basin of the U.S. has had a long history of coal bumps—the violent ejection of over-pressurized coal from underground coal mine structures called pillars and longwall panels. The flying material released from these ejections threatens the safety of miners working in the area. One of the earliest reports of bump occurrence, published in 1935, identified numerous coal-bump sites in eastern Kentucky and southwestern Virginia. The report noted that eight miners were fatally injured from coal bumps over a period of just 4 months.

Over the last 20 years, coal bumps have become more frequent, especially in conjunction with high-extraction mining such as longwall mining. This mining technique leaves permanent pillars of coal between large extraction zones 500 to 1,000 feet wide. These permanent pillars provide support, and serve as a means for access and ventilation while coal is being mined along the width of one of the longwalls. When overburden is great and strata are strong, these support pillars and the adjacent longwall face may bump.

To minimize this problem, geologists and mining engineers at the Bureau are evaluating optimum pillar

layouts. This work is being conducted at a site in Virginia where several different longwall gate-entry designs have been used. Two different longwall gate-entry systems with large and small pillars were evaluated by the Bureau in a mine located in the Pocahontas No. 3 coalbed under approximately 2,000 feet of overburden. Both gate-entry systems used one small pillar on either side of a larger pillar.

Rock instrumentation and in-mine observations demonstrated that an increase in center pillar size can significantly decrease pillar and longwall-face bump potential. The new pillar design was adopted by the mining company, and coal-bump problems were eliminated. The Bureau plans to encourage the use of this same pillar design concept at other mines to eliminate bump problems there as well.

Timothy M. Barton, (412) 892-6548.

Lineaments define structure, ground control hazards

To better understand and predict areas in underground coal mines that may be unstable and show a potential for ground control problems—such as roof falls and water inflows, researchers at the Bureau of Mines Denver Research Center (Bureau) have been using lineaments derived from remotely sensed data as indicators of fractures and other geologic anomalies. Lineaments are linear features of the Earth's surface that are correlated with aerial photographs, satellite images, drill-hole logs,

digital topographic data, seismic surveys and electrical resistivity surveys. These are used to find geologic features that are obscured or may be difficult to define using standard geologic field methods or drilling.

When using the lineaments, Bureau personnel checked interpretations of remotely sensed data on the surface, onsite at the study areas. In addition, they performed subsurface checks within underground mines to determine whether or not the lineaments can be successfully projected to the depth of the coal seams being worked, and whether the lineaments can be correlated to fractures and other structures observed in existing workings. By evaluating the effects of individual features on the mine workings, researchers can make a general assessment of the extent to which geologic structures control what happens to coal seam overburden. Correlations of 80 percent or better have been obtained from Landsat imagery and the locations of known ground-control problems.

The tangible result of the assessment is a potential hazards map that depicts the degree of risk for ground control problems from known or suspected geologic conditions. The map can be used as a planning or hazard-watch tool by the mine operator to allow for anticipated problems in advance of mining.

Thus far, studies have been conducted in central Utah and in northern Alabama. For mines in both these areas, the use of lineament analysis has shown that ground-control problems are not random occurrences and that

potential hazards can be predicted with some degree of confidence by using this hazard-watch tool.

Douglas C. Peters, (303) 236-0772.

Nonmechanical seal reduces mine driller dust exposure

Researchers at the Bureau's Pittsburgh Research Center have developed a low-maintenance, low-cost, simple and practical device that reduces dust emissions from surface drills. Surface coal mine drill operators may be frequently exposed to significant respirable dust concentrations. This dust consists of various minerals and may contain high concentrations of quartz. Quartz is responsible for silicosis, a deadly lung disease. Therefore, it is important to reduce the operator's exposure to the lowest extent possible.

To do this, manufacturers equip drills with either dry collection systems or wet suppression systems. Also, the operators work within enclosed cabs. However, neither method operates practically in the manner intended. For example, enclosed cabs have usually lost their air-tight integrity. This becomes a particular problem when dust is blown by the deck bushing. The bailing air carrying the drill cuttings out of the hole travels at a very high velocity. This literally blows significant amounts of dust past the deck bushing. This bushing is at the point where the drill pipe passes through the drill table. The bushing is important because it is what keeps the dust below the table and away from the operator's cab.

The Bureau successfully field-tested a low-maintenance nonmechanical air

ring seal (AIRRS) that operates on compressed air available on the drill. During a hole-by-hole comparison test, the AIRRS virtually eliminated all cuttings and dust from the drill deck area. In addition, although the AIRRS is primarily a means of reducing dust emissions, another benefit is that the device eliminates a high-wear item on the drill.

Steven J. Page, (412) 892-6669.

Filtration system tested for exhaust of diesel shuttle car

The Bureau of Mines Twin Cities Research Center (Bureau) and the Donaldson Company have developed and tested a disposable, pleated-media filter (PMF) that removes soot, a major exhaust component, from the exhaust of diesel-powered vehicles used in underground coal mines. Diesel exhaust was classified as a "potential occupational carcinogen" by the National Institute for Occupational Safety and Health in 1988. Lower levels of exposure by mine workers are considered desirable.

The PMF is a paper filter similar to the intake air filters used on heavy-duty, over-the-road, haulage vehicles. The first application of the PMF as an exhaust filter was on forklift trucks used in enclosed areas such as warehouses. Forklifts are light-duty vehicles having small diesel engines with exhaust temperatures below 200°C. The PMFs drastically reduced soot emissions and were able to stay in place for up to 2 weeks before requiring cleaning. Each cleaning was done with a vacuum device that extended the fil-

ter's life, allowing it to be reused up to six times, and reduced overall costs.

The first test of the PMF on diesel-powered shuttle cars occurred in June 1990, at the Skyline coal mine operated by Utah Fuel Co. The shuttle car is used underground to haul broken coal from the face to the dump point, and is equipped with a water scrubber to cool the exhaust and to remove flames and sparks. The PMF was placed in the exhaust line following the water scrubber and a water trap. Three shuttle cars and a scoop were similarly equipped and operated during a 1-week period. During the week, an air-quality survey was conducted with and without filters in place. The results of the survey revealed that the PMFs reduced soot concentrations by 95 percent. Filter life was 10 to 12 hours without reuse at a cost of \$50 per filter.

Although the PMF substantially reduced soot concentrations, additional research needs to be done to optimize filter life and performance. The Bureau is working with Donaldson to test different filter media and pleat configurations. These tests will ensure top performance at the lowest possible cost.

Jeffrey Ambs, (612) 725-4765.

Minerals Today, March 1991. Bureau of Mines, Office of Technology Transfer, 2401 E Street, N.W., M.S. 6201, Washington, D.C.

The editors of the Holmes Safety Association Bulletin would like to apologize for an error on page 14 of the April issue. In the article titled "Fatalities and wearing of seat belts," the end of the first paragraph incorrectly read "The Arizona State Mine Inspector's office believes this information indicates that lives can be saved if equipment operators at metal and non-metal mines are not required to wear seat belts." This statement should have read that lives could be saved if "equipment operators... are required to wear seat belts."

Auto safety tips for young and old

Older drivers have a greater risk of injury or death from an auto accident because their bodies are less trauma-resistant, according to David M. Klein, senior vice president, ITT Hartford Insurance Group. But there are safety steps older drivers can take to avoid becoming accident victims. You should heed these 10 tips whether you're 25 or 65.

1. Use and properly adjust shoulder and lap safety belts, making sure they fit snugly over your shoulder, across your chest and low in the lap. People have died in automobile crashes at speeds as low as 12 miles per hour when they were not wearing seat belts. In 1988, safety belts were credited with saving 4,500 lives and preventing 119,000 injuries.

2. Choose cars that offer air bags. Air bags inflate within one-tenth of a second after a frontal impact of 12 miles per hour or more and deflate in less than a second following the accident.

3. Adjust head restraints so that the center of the restraint is even with your ears. Head restraints protect against whiplash injuries from rear-impact crashes.

4. Seeing is 85 to 90 percent of driving. Keep windshields, windows and wipers clean because dirt can intensify glare. Adjust side-view mirrors so that most of your car is just outside your field of vision.

5. Keep headlights clean and properly aimed. Dirty headlights can reduce effective output by as much as 70 percent, and a headlight that is just one

degree out of line will lose as much as 30 percent of its effectiveness.

6. Routine driving requires a driver to make approximately 20 major decisions per mile. With anti-lock brakes, electronic sensors and an on-board computer read your wheel speed and automatically adjust the wheel's response to avoid dangerous locking and skidding in a sudden stop.

7. Drive a car with an instrument panel that is easy to read so that you can keep your eyes on the road.

8. Use the low beams of your headlights during the day for maximum visibility.

9. Drive a car with seats featuring adjustable height so that you can see better and get in and out of the car more easily. Look for firm padding for better support and comfort.

10. Before driving, adjust your seat so that you can fully depress the clutch and brake without lifting yourself off the seat cushion.

Did you know?

Drinking alcohol and walking is nearly as fatal as drinking and driving. Nearly half of all adult pedestrian accidents involve the use of alcohol.

Reprinted from Safety and Health, October 1990.

The Last Word...

"If you can't apologize, you'd better be good at making new friends."

"If it weren't for teenagers, some of us would never realize our shortcomings as parents."

"You can't get rid of a bad temper by losing it."

"If there was no darkness, how could we appreciate a dawn?"

"No matter where they seat you at a baseball game, you're always located between the hotdog peddler and his best customer."

"True friendship is like sound health; the value of it is seldom known until it is lost."

Overheard: "Just when I can afford to lie in the sun, they decide it's hazardous to my health."

"If you've found someone you can't touch, you have not reached far enough."

"Most of us ask for advice when we know the answer but want a different one."

"A neighbor will stand at your door talking for 20 minutes because she doesn't have time to come in."

"Good judgement is what you think a person has if he trusts yours."

"The cost of education is high—about one-tenth of the cost of ignorance."

NOTICE: We will welcome any materials that you submit to the Holmes Safety Association 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 1991 is underway – please remember that if you are participating this year, you need to mail your quarterly report to:

Holmes Safety Association Bulletin
c/o Educational Policy and Development
4015 Wilson Boulevard, Room 531
Arlington, Virginia 22203-1984

Phone: (703) 235-1400

