BULLETIN

HOLMES SAFETY ASSOCIATION

E PLURIBUS UNUM

SAFETY EFFICIENCY

MINERAL INDUSTRIES

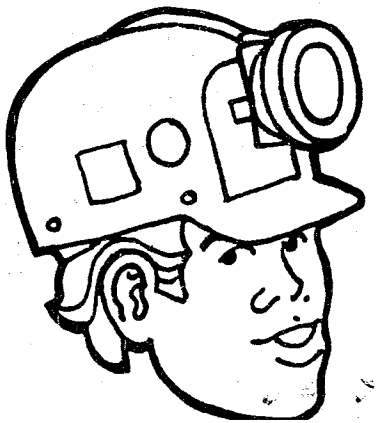
November 1988

Roof Evaluation — Accident Prevention

R.E.A.P. — a program developed to promote health and safety awareness in mining

THE PROOF IS IN THE ROOF...

SUPPORT IT!



Miners: We'd like your help in creating safety slogans for these posters. If your slogan is used you will be given credit and your name, mine, and state will be printed on the poster. Please send your suggestions to: MSHA, Office of Information, Graphics Office Rm. 609, 4015 Wilson Boulevard, Arlington, VA 22203.

Credit for this month's poster goes to: **E. J. (Buddy) Davis, Director of Safety, Cotter Corporation, Western Slope Operations, P.O. Box 700, Nucla, Colorado.**

REAP
ROOF EVALUATION - ACCIDENT PREVENTION

IN THIS ISSUE...

PAGE

THIS SAFETY BULLETIN CONTAINING SAFETY ARTICLES ON A VARIETY OF SUBJECTS, FATAL ACCIDENT ABSTRACTS, STUDIES, POSTERS AND OTHER SAFETY INFORMATION FOR PRESENTATION TO GROUPS OF MINE AND PLANT WORKERS IS PROVIDED FREE AS A BASIS FOR DISCUSSION AT ON-THE-JOB SAFETY MEETINGS.

PLEASE USE THE POSTAGE-PAID ENCLOSED GREEN MEETING REPORT FORM AND RETURN TO THE HOLMES SAFETY ASSOCIATION.

COMPANY	CHAPTER NO.	LOCATION
TR&H Development Inc.	7732	Isonville, KY
Trinity Coal Corp.	7733	Wise, VA
Sequoyah Resources Inc.	7734	Big Rock, VA
Almosa Mining Inc.	7735	Springfork, WV
Breckenridge Corporation	7736	Jane Lew, WV
Wasta	7737	Wasta, SD
Northern Processing Company	7738	Garrett, KY
Bragg Exvacation	7739	Clarksburg, WV
Wolvering Mining Corp.	7740	Salyersville, KY
Wolvering Mining Corp.	7741	Salyersville, KY
County Concrete Corp.	7742	Merrill, WI
Hoffman Mining Inc.	7743	Stoystown, PA
Shade Inc.	7744	Stoystown, PA
Double J. Coal Co., Inc.	7745	Grundy, VA
Class Contractors Inc.	7746	Boothesville, WV
Quadlee Inc.	7747	Quinnimont, WV
Crab Orchard Tipple Pocahontas Coal	7748	Crab Orchard, WV
Winn Construction Co., Inc.	7749	Philpot, KY
Ingram Sand & Gravel	7750	Glen Rose, TX
Stonewall Auger #1	7751	Lanark, WV
Indian Camp Creek	7752	Morgantown, KY
The Hoke Co.	7753	Lewisport, KY
Zielinski Construction Co.	7754	Horton, KY
Goodrich Trucking	7755	Lumberport, WV
Dennison Trucking	7756	Clarksburg, WV
Columbia Gold Production Co., Inc.	7757	Phoenix, AZ
Double R Coal Co., Inc.	7758	Regina, KY
Donald Swiney Mining Inc.	7759	Shelby Gap, KY
Arkansas Lime Company	7760	Batesville, AR
Porocel Corp.	7761	Little Rock, AR
Granit Mt. Quarry	7762	Sweethome, AR
HMB Construction	7763	De Queen, AR
Mid State Construction	7764	Malvern, AR

NEWS UPDATE

MINE EXPLOSION

Approximately 400 members representing management, state, federal, labor distributors and mine rescue teams from Ohio, West Virginia and Pennsylvania, attended the 64th Annual Dinner Meeting, Friday, October 14, 1988, at the Holiday Inn-Racetrack Road, Washington, Pennsylvania. Richard Vasicek, Supervisor National Mine Emergency Unit, MSHA-District 3, presented an outstanding illustrative report on the mine explosion at Double R Coal Company, Inc., No. 1 mine, at Duty, Dickerson County, Virginia, on December 26, 1987.

District Council-Ladies Night Dinner

Once again the officers, committees and supporting agencies of the Holmes Safety Association, Pennsylvania Bituminous Council put together another outstanding Ladies Night Dinner Meeting at the Omni Restaurant in Indiana, Pennsylvania, October 22, 1988.

There were approximately 500 members and guests attending, many beautiful gifts and door prizes awarded to the ladies, following a brief business meeting.

Bill Hoover, HSA National Secretary introduced Mr. Thomas J. Ward, Jr., Director of Pennsylvania Deep Mine Safety, Dept. of Environmental Resources. Mr. Ward will administer DER's Bituminous and Anthracite deep mine safety programs, working closely with industry, labor and federal officials.

H.S.A. SAFETY TOPIC

YOUR IDEAS ARE NECESSARY

Each one of us at some time has had ideas on safety. What did you do with them? Let us talk about this now and see what we can do to make us think of safety ideas. This sounds simple; however, in one safety meeting I was told that only three percent of the people actually think; seven percent think they think, and 90 percent would rather do anything else but think. Thinking about safety will help us create safer work habits.

In looking for safety suggestions or ideas, you will be able to see things more clearly if you break the job down step by step. Start with your own job and study in detail everything you do from the time you start until you finish. By doing this, you will discover why and how your job should be done. It will start you thinking about how it can be done more safely. It is likely that easier, safer and more efficient methods will become apparent to us if we constantly study the various parts of our jobs and the way we do them.

A worker on the same job day after day gets to know it well. Besides this, one acquires a sense of feel or instinct about the way one does the work. Actually, the worker does parts of the job so often that the job is performed almost unconsciously. For this reason, it is important to always be alert about performing work hazardously and to correct such habits when they are unsafe. Some of us are prone to get into a rut because we get used to doing things a certain way, even when it is dangerous. For this reason, you should not limit your thinking to your own job. Look for conditions and acts that could be improved elsewhere in and around the operation. Look for simple, straightforward ways of improving your working places for your protection and for the protection of your co-workers.

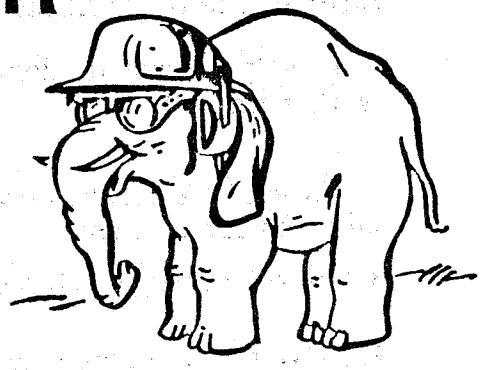
Every safety-conscious mining organization not only wants but needs safety suggestions and ideas that will promote safe working conditions and safe ways to do the work. This is of special importance to each of us, for it provides an opportunity for everyone to get into the act. Also, it gives everyone a chance to look ahead for hazards and suggest the proper corrective action before an injury occurs.

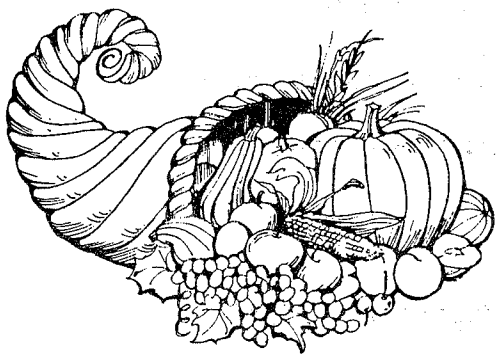
A safety suggestion should not be made in the form of a gripe, criticism, sarcasm, or fault finding. If you are sincere in your efforts to improve safety, then you should look for incorrect procedures, bad work habits, defective equipment and other hazards that may cause injuries. Remember that by helping to institute safe working methods and conditions, we will become safer and more efficient workers.

REMEMBER

TO BE BIG ON

SAFETY





Mine Safety and Health Administration
Metal and Nonmetal
Southeastern District

MAY ALL YOUR LABORS BE FRUITFUL!

H.S.A. SAFETY TOPIC

HOW GOOD IS YOUR ACCIDENT-PREVENTION PROGRAM?

Is your answer "Yes" to each of the following questions? If you are not sure, or your answer is "No," then there are improvements to make.

1. To help prevent accidents, do you train and instruct everyone in safe work methods?

2. Do you have accident prevention inspections to find unsafe conditions and then correct them?

3. Do you investigate all accidents so that they won't be repeated?

4. Do you have suitable mechanical guards and good protective equipment?

5. When new equipment goes into operation, are its hazards known and is protection provided from them?

6. Does every injury get the proper first aid?

7. Do you keep a record of your accidents and your progress in accident prevention?

8. Do you have safety standards which everyone knows?

9. Does your safety work keep moving toward greater control over accidents?

10. Do you make continuous efforts to create safety mindedness?

11. Do you reach everyone personally with safety encouragement in the work of preventing accidents?

H.S.A. SAFETY TOPIC

OXYACETYLENE DANGERS

Careless storage and use of oxygen and acetylene cylinders result in accidents. Appropriate personnel should make a careful check during each inspection of cylinder-storage practices and rules concerning removal of cylinders at the completion of a repair job.

Following are several brief descriptions of accidents involving oxygen and acetylene cylinders:

1. An acetylene ignition occurred in a pillar district when the gas was ignited by sparks created with the carbide-tipped bits of a continuous miner ruptured an acetylene cylinder. Three of the seven employees sustained first-degree burns. The acetylene cylinder had been left along the rib covered with sloughed coal and not noted when the area was inspected prior to starting a pillar lift.

2. A ripper-type continuous-mining machine, while cutting through a pillar block, ruptured a charged oxygen cylinder that had been covered by a fall. The continuous-miner operator and the two roof bolters were burned and required hospitalization.

3. During repair of a loading machine, where oxyacetylene welding was employed, an energized electrical cable lying on the oxygen cylinder arced, puncturing the cylinder and subsequently igniting the escaping oxygen which in turn ignited grease and oil on the loading machine. The heat finally ruptured the safety plug on the acetylene cylinder and acetylene added fuel to the already raging fire. As a result, one man was fatally injured, six sustained second-and third-degree burns, and two others required medical treatment.

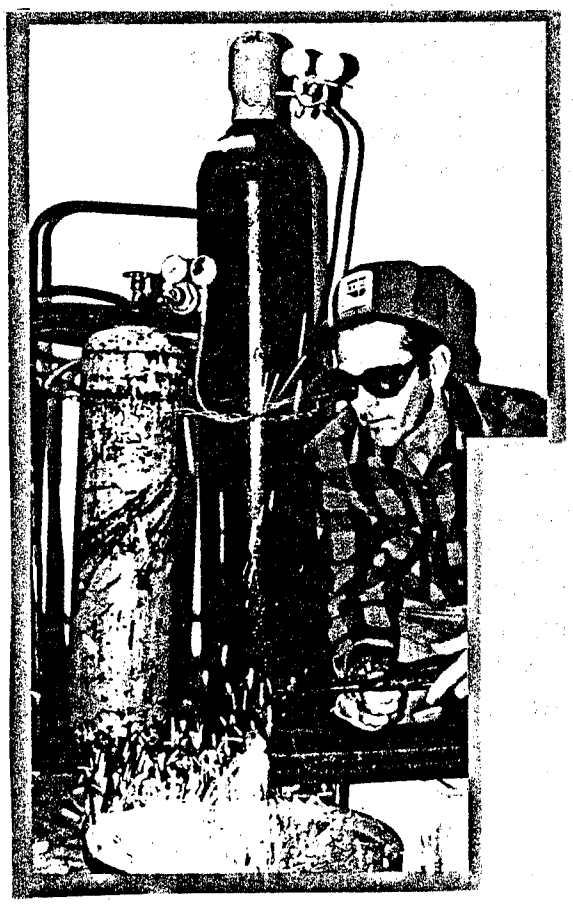
When careless cylinder-storage practices exist, such as, leaving cylinders along ribs or in any place other than a shop or designated storage area, or when oxyacetylene welding is performed near energized power wires or electrical equipment the following steps should be taken:

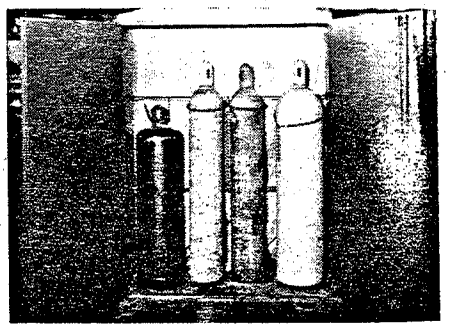
1. A careful and thorough inspection should be made in working places where sloughed coal may conceal abandoned materials and equipment.

2. Persons engaged in welding operations, repairs and maintenance work should ascertain that all materials and equipment are accounted for after each operation and that material and equipment are stored properly in a safe place.

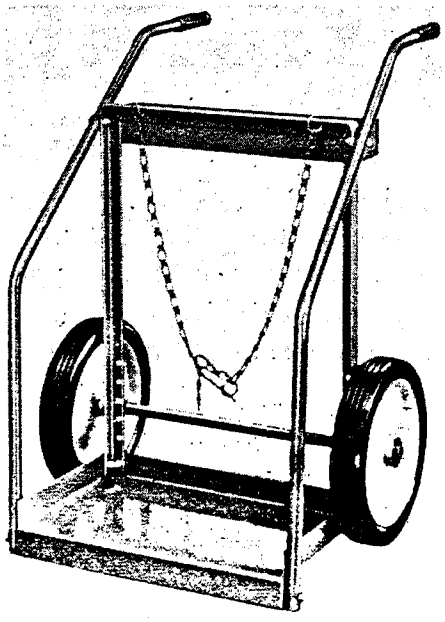
3. Power cables should be deenergized or removed from the area where oxyacetylene welding is done.

4. Persons not engaged in repair work where oxyacetylene equipment is used should retreat to a safe place.





Storage house for compressed gas cylinders. Note chain supports and metal doors. The house has louvers (in the sides) for ventilation.



Commercially available cylinder truck.

ABSTRACT FROM FATAL ACCIDENT

*This fatality could be discussed at your regular on-the-job safety meeting.

FALL OF MATERIAL ACCIDENT

GENERAL INFORMATION: Gold ore was being mined from underground using the shrink stope mining method. Blasted rock was pulled from No. 2 and No. 3 draw points with an Eimco No. 912 L.H.D. and was hauled to the surface and transported to the primary crusher. The sized ore was put in silos where cyanide solution was introduced to recover the gold.

DESCRIPTION OF ACCIDENT: The victim reported for work on day shift at 7:30 a.m. He was assigned to pull ore from the No. 2 and No. 3 draw points with the 912 Eimco L.H.D. in order to lower the ore level i the stope to make room for the next blast. After the No. 2 draw point had been pulled low enough, the victim began to pull from the No. 3 draw point. In the meantime, two other miners, worked on extending the bulkhead in the No. 4 manway. They had just finished putting in an 8" X 8" stull when the victim checked to see if the ore pile had dropped. The pile hadn't dropped, the three men then decided to put water on the ore pile to loosen it since there was a hang up in the No. 3 draw point. They put the water hose on the ore pile and turned on the water. A miner and the victim continued to work on the No. 4 manway. After installing some lagging, they both climbed up the ladder to the top of the ore pile and started to clean up loose lagging and timber which was piled on top of the ore pile. The victim placed a long piece of lagging over the ore pile and walked out on the lagging to move the water hose. The victim was sitting on the end of the lagging with the water hose when one of the miners started to say something to the victim and the ore pile collapsed. The miner tried to grab the water hose but it was being pulled down into the hole with the victim. He had to let go to keep from being pulled in himself. He yelled for another miner several times then went to get help. The mine rescue team was called taking several hours to get the victims' body out of the raise. He was under approximately five feet of ore and ten feet away from the manway.

CAUSE OF ACCIDENT: The direct cause of this accident was the employee placing himself on top of an ore pile which he knew had a hang up below it. A contributing cause was not wearing a life line and having another employee tender the life line.

RECOMMENDATIONS: Employees should be trained in the hazards associated with shrink stope mining and not be allowed on ore piles where ore has been or is being pulled.

ABSTRACT FROM FATAL ACCIDENT

*This fatality could be discussed at your regular on-the-job safety meeting.

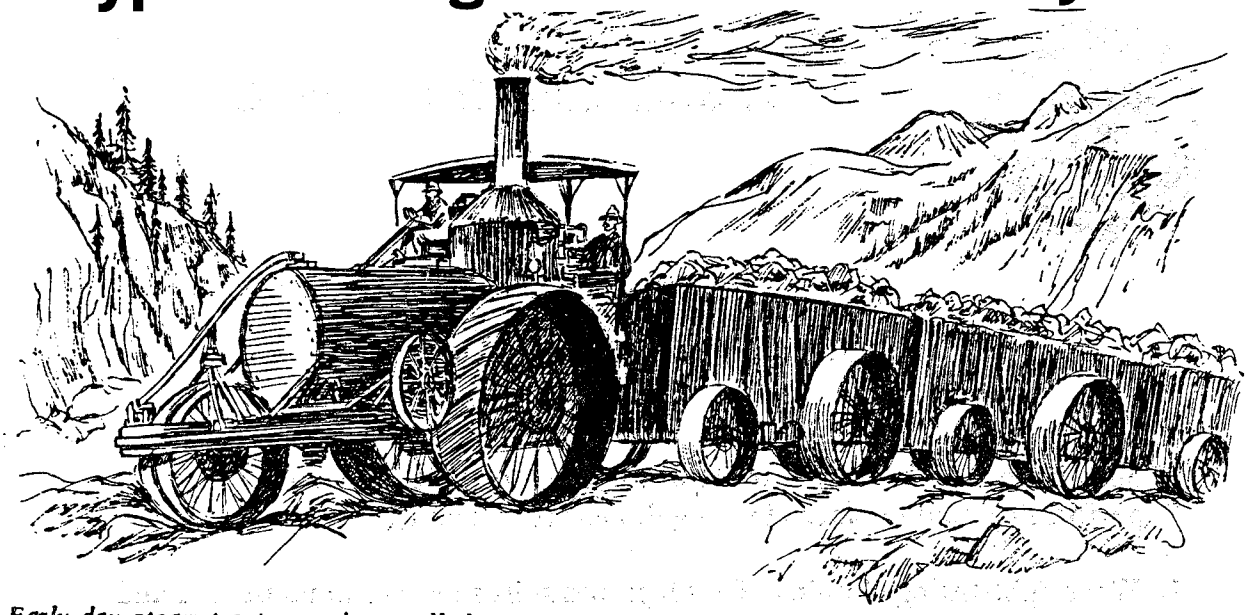
FATAL HOISTING ACCIDENT

GENERAL INFORMATION: The service shaft was 34 feet in diameter and 580 feet deep. Shaft-sinking operations were being performed using an 8-foot bench mining method. Contained in the shaft were a 36-inch diameter steel ventilation tubing and galloway having two work decks with 4 bucket wells allowing the buckets to pass through the work decks. The top of the Galloway was stationed about 45 feet from the shaft bottom. The four hoist buckets with a 4 cubic yard, 8-man capacity were used to hoist men, muck and supplies. The hoisting equipment used in the service shaft consisted of three independent systems: the Galloway hoist system, the Clark hoist system and the Goosebay hoist system. The hoist directly involved in the accident was the Goosebay hoist.

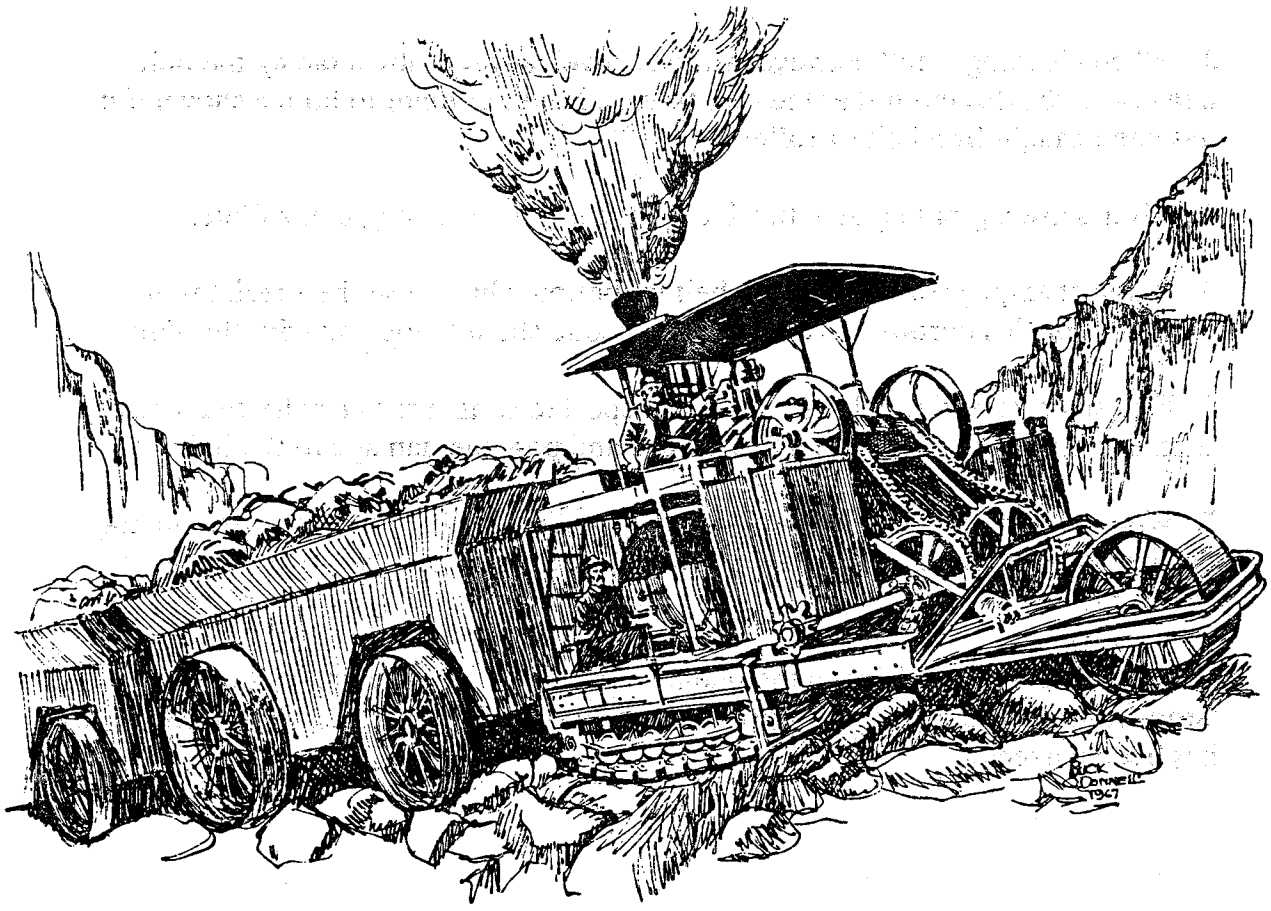
DESCRIPTION OF ACCIDENT: The service shaft crew began their scheduled work shift at 1600 hours. The shift boss was informed that the Goosebay hoist was experiencing electrical problems and not in service. He assigned two men to work up in the dump chute and two men in the shaft bottom. These two men were lowered to the bottom with the Clark hoist. At approximately 2300 hours, the shift boss, while making a routine check of his crew, looked and noticed the collar doors open on the Goosebay side. He immediately investigated the reason for the doors being open. Statements indicate that the shift boss was never contacted and had not given a release for the Goosebay to be operated. He then heard a crashing noise and saw the No. 2 side bucket on the Goosebay side falling through the open collar doors toward the bottom. Immediately following the crash, an explosion and fire occurred in the 4160v/480v, 3-phase, portable transformer trailer. Everyone available assisted in bringing this fire under control because it posed a danger to the entire hoist house. The transformer created a power failure to both the Goosebay and Clark hoists preventing anyone from getting to the shaft bottom to check on the work crew. The underground phone system was still operating and the shift boss made contact with a miner and was informed that there was one fatality and one man seriously injured.

CAUSES OF ACCIDENT: The direct cause of the accident was that the hoist unexpectedly accelerated and the hoistman was unable to stop the hoist before the bucket crashed into the upper crash beam. The Lilly controller retarding cams were set back 1-3/8 inches, along with the brake regulating cam set at 50 percent of profile at final hoist limit. If these safety features had been properly set, the hoist should have commenced retarding at a sufficient distance from the end of travel, preventing the bucket from contacting the upper crash beam.

Typical Mining of the Era Gone By



Early day steam tractor engines pulled trains of copper ore in the mountain areas and hauled borax in the desert. The big, high wheels helped the machines get out of holes and over obstacles.



The idea of the crawler was 100 years old, yet it was Ben Holt who, in 1904, successfully demonstrated it as a unit.

This treadmill type machine picked up and laid down it's own portable railroad as it moved over rocks, snow and mud.

H.S.A. SAFETY TOPIC

BELT CONVEYORS

Following is a review of the necessary safeguards to be taken when performing maintenance cleaning duties around belts:

1. Wear tight-fitting clothing. Pant legs and shirt sleeves should be tied and snug-fitting, and jackets and coveralls should be buttoned or fastened.

2. Never use your hands or even a cap wedge for cleaning or other purposes unless the power is shut off and the switch is locked out.

3. When cleaning a belt conveyor with a shovel, always shovel facing the belt head or in the direction that the belt travels. Never attempt to hold a shovel if it has been caught by a belt or roller.

4. Always use a grease gun with a fixed nozzle when greasing belt rollers.

5. When changing rollers with the belt in motion, always use the special tool designed for this purpose. Preferably, someone should help you with this duty.

6. Frozen or defective rollers should be reported so that they can be changed as soon as possible to eliminate a fire hazard and possible damage to the belt.

7. When making repairs to a belt and there is a possibility that some person may unwittingly start the conveyor, you should lockout and tag the power to the conveyor.

8. Never leave a belt drive in the manual position if the automatic "start" and "stop" controls are not working properly. Stay with the controls until the situation has been corrected.

9. Use extreme caution when crossing a belt conveyor. The stopping of a belt does not necessarily mean the power has been removed from the controls. Most conveyor belts are electrically interlocked to start and stop automatically, and all conveyors inby the affected one will stop to prevent spillage. A conveyor stopped under these conditions is subject to start moving at any minute and creates a hazard to any one who attempts to cross over the conveyor. You should cross a conveyor only at the regular provided crossing points.

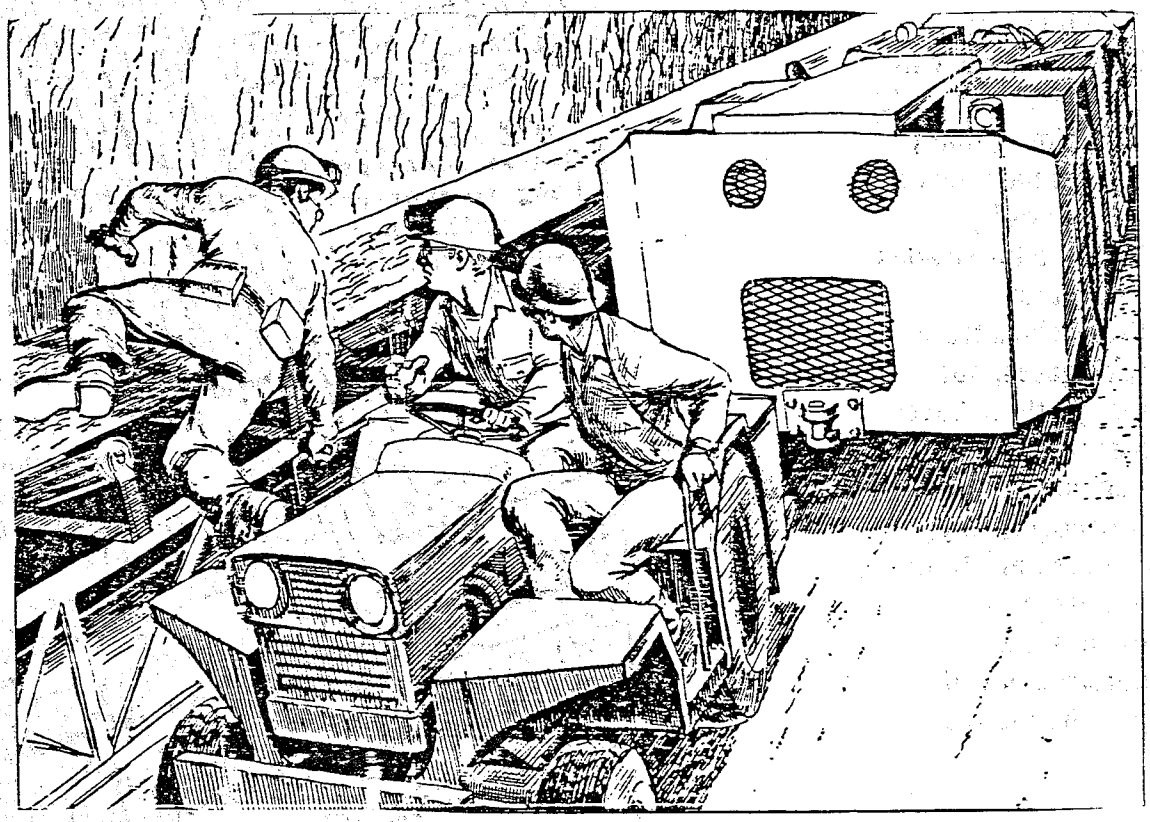
Safeguards to be taken when traveling on belts:

1. Ride facing the direction of travel and with your body stretched out its full length.

2. Maintain a spacing of about 15 feet between you and the next person on the belt.

3. Always be aware of your surroundings, and if trouble develops, stop the belt with the remote control wires or a switch if one is nearby.

4. When getting off a belt, raise your body enough to clear the structure, step off with one foot and move your body with arms and legs away from the belt, always maintaining your balance.

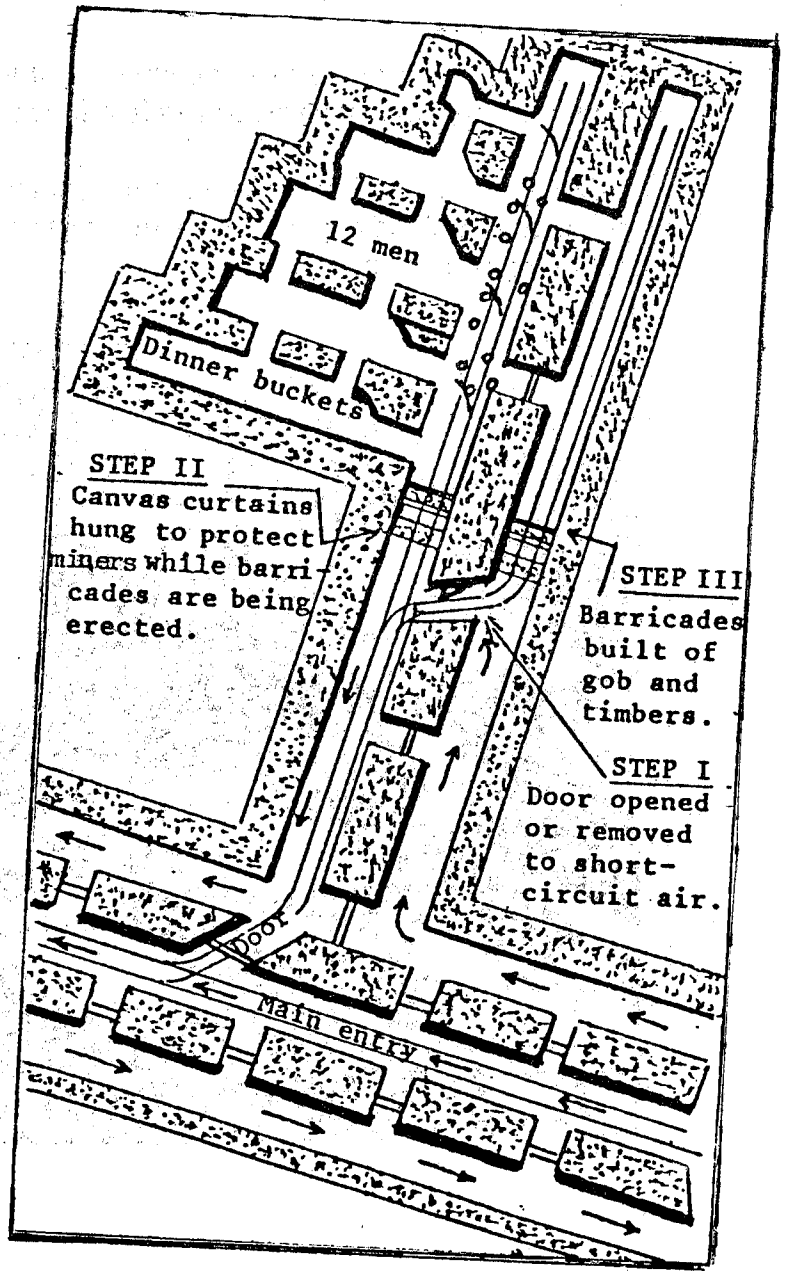


H.S.A. SAFETY TOPIC

SUBJECT: BARRICADING AS A LIFE-SAVING MEASURE IN CONNECTION WITH MINE FIRES AND EXPLOSIONS

STUDY THIS PRINT - IT MAY SAVE YOUR LIFE

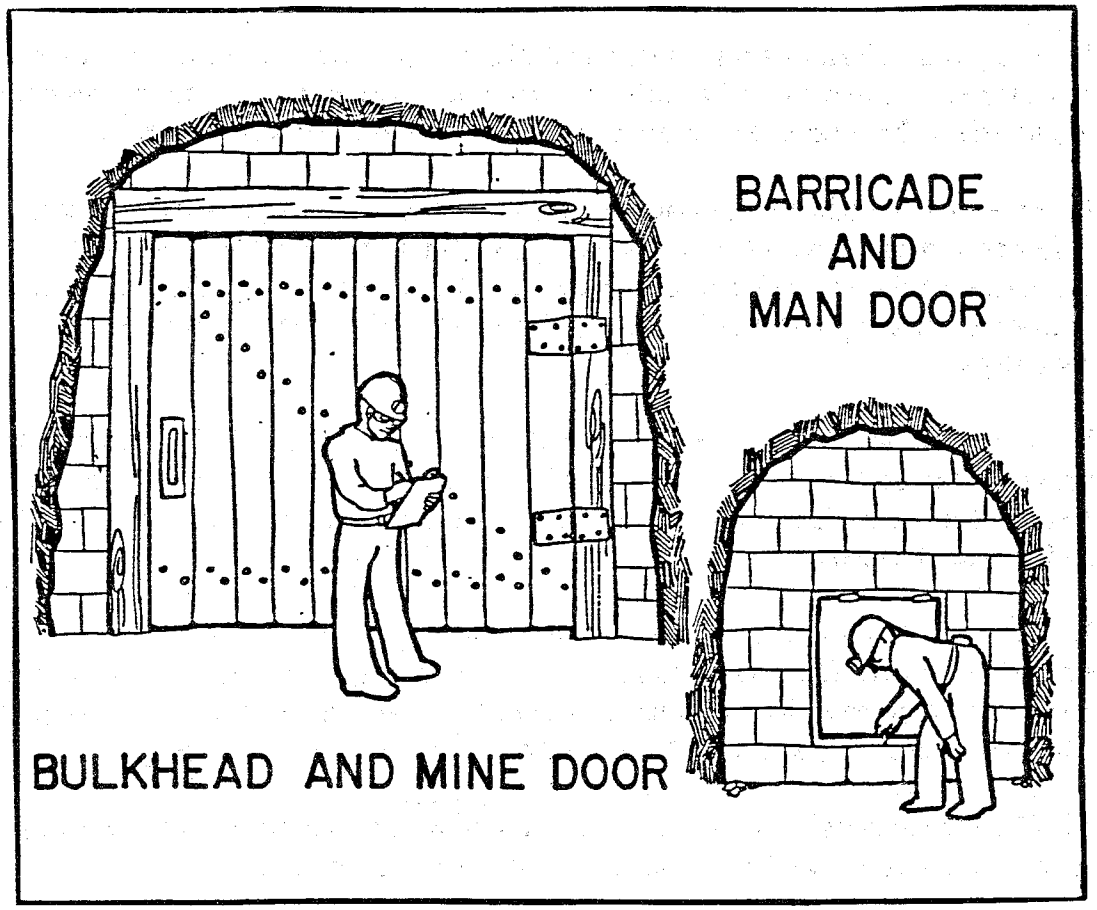
After mine explosions and during mine fires, deadly gases spread through the mine workings and imperil those who survive the heat. At such times, many miners have saved their lives by building barricades to protect themselves from such gases, but many others have lost their lives by neglecting to do so. Moreover, trapped miners have built imperfect or inadequate barricades and perished later.



Experiments related to the life sustaining capacity of barricaded chambers show that a person in a confined space needs about a cubic yard of normal air an hour. At the end of an hour, this cubic yard of air will contain about 14-percent oxygen and 5-percent carbon dioxide; a flame safety lamp will not burn. On the basis of a cubic yard of air an hour, an enclosed space 10 feet wide, 10 feet high and 10 feet long, containing 1,000 cubic feet or 37 cubic yards of space, will support a miner 37 hours before he will begin to suffer through lack of breathable air. This minimum allowance of 1 cubic yard an hour for each person does not provide for losses of oxygen through absorption by coal or timber, etc.

The features regarding proper barricading procedures, when to barricade and when not to barricade, and practical rules related to survival after barricades are erected are too numerous to mention in this short message. All mine officials, supervisors and workers should acquaint themselves with this important information as soon as possible and review their knowledge on this subject, which should be discussed at a chapter or council meeting in the near future.

REMEMBER -- IT IS EASIER TO PREVENT A FIRE THAN EXTINGUISH ONE



H.S.A. SAFETY TOPIC

TIPPLE AND PREPARATION PLANTS

Generally, all mines are equipped with some type of tipple. This is usually a structure through which the entire output of the mine passes and the production eventually is dumped into railroad cars, autotrucks, or barges. Much of the production passes through more elaborate structures, ranging from tipples with sizing equipment and picking tables to combinations of tipples and preparation plants in which the product is subjected to various types of sizing and cleaning.

Some of the common hazards, with suitable recommendations, are as follows:

1. Adequate safeguards must be provided for tipples and preparation plants against fire and explosion hazards. It cannot be overemphasized how a disaster might affect the employees, mine production and the structure itself.

2. Fires may be started in various ways, such as arcing of open-type motors, switches and starters and by faulty wiring. To minimize the fire hazards of electrical origin, all wiring or circuits for electrical motors, switches and controls in tipples and preparation plants should be installed in conduit or on suitable insulators.

3. Stoves or other heating devices should be installed in a suitable manner. Open fires or salamanders should not be used. Steam or hot-water heat is preferable, no radiators or piping should be near combustible material or present stumbling and contact hazards.

4. Accumulations of dust in tipples and preparation plants constitute an explosion hazard. Explosions in such structures are usually followed by fires. To reduce the explosion hazard, dust accumulations should be removed at frequent intervals, preferably at the end of each shift or more often if necessary

5. Dust in suspension should be allayed with water or other suitable wetting agents, or an effective dust-collecting system should be installed.

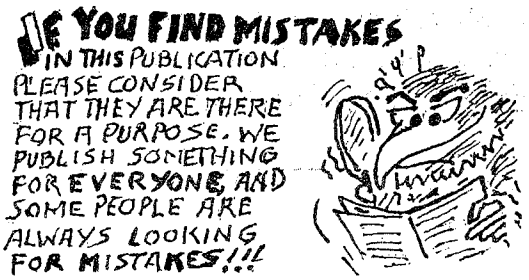
6. All walkways and cleaning plants should be well lighted and floor openings should be provided with toeboards and guardrails. Stairways should be provided with suitable handrails, the risers should be of uniform height to permit easy climbing, and the treads should be of uniform width to permit good footing.

7. Wooden floors and walkways in tipples often absorb oil and grease and increase the flammability of the structure. Concrete and steel construction is fire resistant and is much easier to keep free of oil and grease. With the removal of oil and grease, the fire hazards and slipping and stumbling are greatly reduced, the lives of the workers are safeguarded, and the possibility of interruption of mine operation is decreased.

8. When materials are dumped directly into the railroad cars by means of chutes, there is always a possibility of a lump of material striking the person stationed at the brake wheel to control the movement of the railroad car. Safe procedure requires the use of two railroad cars coupled together so that the movement of the cars can be controlled by operating the brake wheel on the car farthest from the chute. A car retarder can also be utilized to control railroad car movement, and employees should stay in the clear in case the retarder cable or hook should break or slip. Employees should be instructed and required to stay at least 10 feet from a car being loaded. Notices should be posted, warning all persons to keep in the clear.

9. Anyone working in or around tipples or preparation plants exposed to the hazards of flying particles should wear suitable respirators. Where dust is treated with oil to allay dust, the workers exposed to the oil fumes and mists should wear permissible respirators, and oil sprags should be installed at safe distances from all possible sources of ignition.

10. Cutting and welding in tipples or preparation plants should be done preferably when the plant is idle. Such work should not be done in a dusty atmosphere, and all dust accumulations should be cleaned up and a fire extinguisher should be readily available. Welding or cutting should not be done in bins or other storage enclosures until it has been thoroughly wetted down to prevent dust from being thrown into suspension. A good practice is to make a thorough examination after welding or cutting to assure that a fire has not been started by hot flying particles.



H.S.A. SAFETY TOPIC

WHAT IS RADON?

Radon is a naturally occurring, almost chemically inert, radioactive gas. It is produced from the radioactive decay of radium, which is formed from the decay of uranium. Since radium and uranium are common elements in rock and soil, radon is constantly being generated. Because radon is not chemically bound or attached to other materials, it can move easily through even very small spaces such as those between particles of soil and rock. Radon-222, produced by the decay of radium-226, is the type of radon most commonly of concern in indoor environmentals.

WHERE DOES INDOOR RADON COME FROM?

A major source of indoor radon is radium in the soil and rock under the surrounding home. Radon moves through soil and rock and can enter a home through cracks or openings (sewer pipe and sump pump openings, cracks in concrete, wall-floor joints, hollow concrete block walls). Lower air pressure inside buildings (caused, for example, by wind and loss of indoor air) can help to pull radon into a home. The amount of the radon reaching a home is dependent on several factors, including the amount of radium in the surrounding soil or rock and the soil permeability.

HOW CAN THE RADON LEVEL BE DETERMINED?

For specific information on any testing program that might be available in your area, contact the radiological health office in your state or local health department. You may also check whether your local utility company has a program to evaluate the effects of energy conservation measures on indoor air quality.

When measuring indoor radon, it is important to consider changes in radon concentrations over time. Indoor concentrations can vary on an hourly, daily, and seasonal basis, depending on the changing amount of ventilation in the home. Thus, longer-term measurements (six months to one year) made in structures during normal use generally provide more reliable estimates of the average indoor radon concentration. Shorter-term measurements made under controlled conditions by trained personnel can also provide reliable information.

Radon measurements should be made under "closed house" conditions to avoid underestimations due to natural ventilation in the home. You should close your home's windows and doors for at least 12 hours prior to measuring, and they should remain closed throughout the measurement period. Ideally, measurements should be made during the winter when the home is closed against the weather, particularly if the measurement period is to extend beyond a week.

To obtain the best estimate of the potential radon exposure in a house, measurements should be made in the lowest floor of the home, usually the basement. This location is also likely to be less affected by changes in ventilation that might result from the opening of doors and windows, strong winds, etc.

(In most cases, radon contamination will pose a potential problem only in a home's basement, and first and second floors.)

WHAT ARE THE HEALTH EFFECTS OF RADON?

Long-term exposure to the short-lived radon decay products is associated with an increase in the risk of lung cancer. The decay products tend to adhere to dust particles or other surfaces and, if inhaled, can also adhere to the airways of the lungs. The alpha particles emitted by two of the radon decay products (polonium-218 and polonium-214) can strike cells in the lung and damage them, possibly leading to the formation of cancerous cells.

Radon, on the other hand, is almost chemically inert and an inhaled radon atom is very likely to be exhaled before it decays. Thus, the main risk is lung cancer tied to breathing in radon's short-lived decay products.

Estimates of the risk of lung cancer due to radon exposure are based on studies of workers in underground mines who were exposed to radon. These workers developed lung cancer at a higher rate than that observed in the general population. Although the epidemiological evidence is not directly applicable to people who do not work in mines, it is an adequate basis for concern about indoor radon exposure.

EPA risk estimates suggest that exposure over a lifetime to a radon concentration of 1 picocurie per liter (1pCi/l) approximates the risk of lung cancer associated with smoking one cigarette per day. (One picocurie represents the decay of about 2 radon atoms per minute in a liter of air). Living with 20 pCi/l has an effect comparable to smoking one pack per day, and so on. Unlike smoking, radon has not been implicated in the development of empyhysema, heart disease, or other smoking-related diseases. Clearly, this comparison must be limited to lung cancer and it is only an approximation.

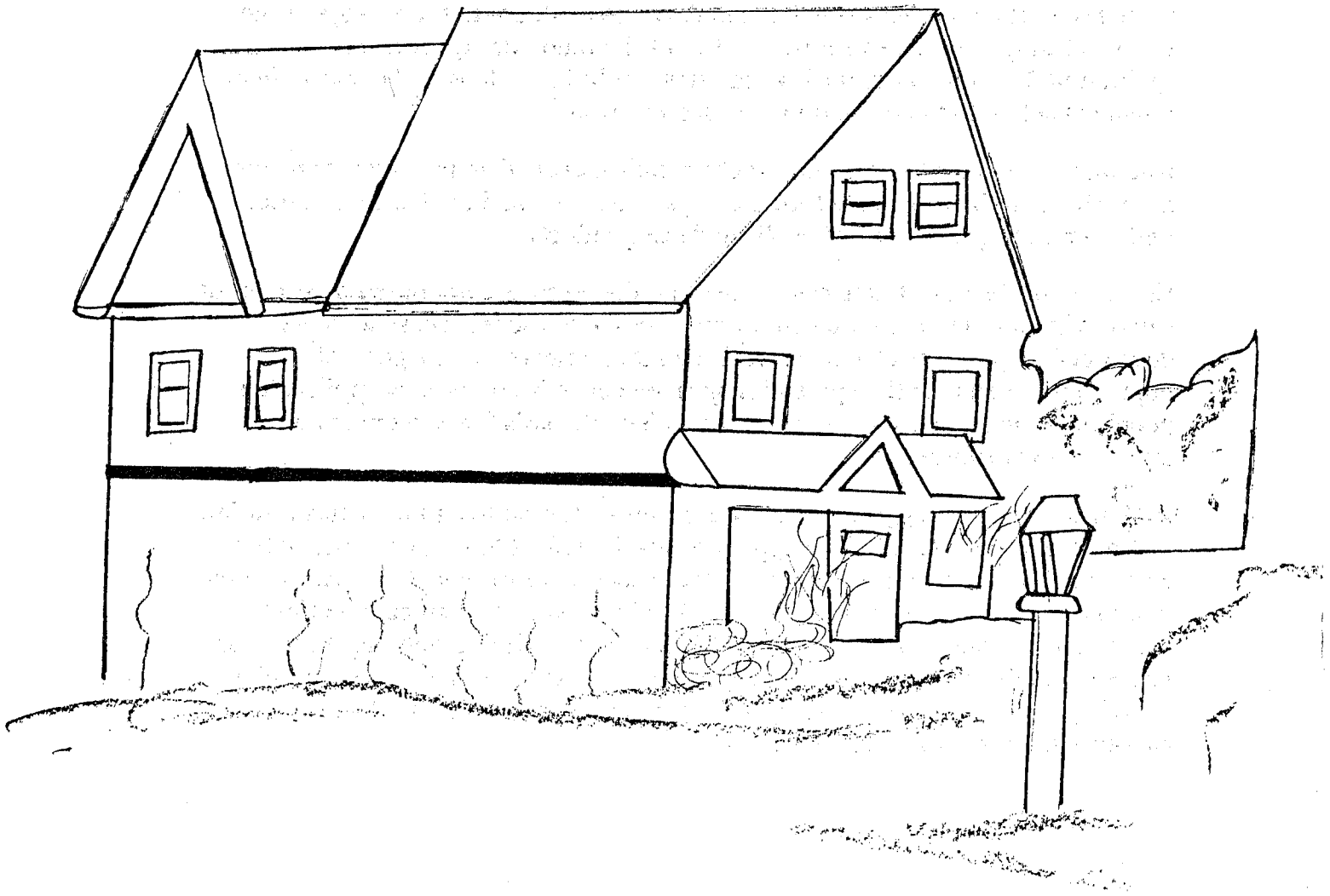
WHAT ARE SAFE LEVELS OF RADON?

Prudent practices recommended by experts and adopted as standards in other countries indicate that people should avoid living for a long time with concentrations higher than 4 pCi/l. By this standard, present data suggests that 5-10 percent of the U.S. population is now receiving excessive radon exposure.

The EPA has recently recommended that the annual average proposed guidance not exceed 4 pCi/l.

CAN I BUILD A "RADON-PROOF" HOUSE?

There are a number of ways available to minimize the introduction of radon. The methods depend on the site, geological characteristics, basic house configurations, heating and air conditioning techniques, and many other specific factors.



H.S.A. SAFETY TOPIC

WINTERIZE YOUR DRIVING

When California Highway patrolmen talk about driving on snow and ice, people listen.

Having experienced wintertime driving conditions from avalanches to whiteouts, Highway patrolmen find few surprises left. They emphasize that what they teach professional drivers applies just as much to ordinary motorists who face winter extremes, whether they live in the high country or on the plains.

Driving techniques have to be adapted to the weather conditions, but most people fail to recognize that snow or rain changes their ability to react and control a vehicle. They just don't slow down during bad weather. Most drivers can deal with snow or ice as long as they are on a straight stretch. Accidents invariably occur on the turns, brought on by three common errors: excessive speed, panic braking and downshifting too rapidly.

WHEEL LOCKUP

Hitting the brakes locks up the front wheels, making steering impossible. Downshifting down a hill will lock up the differential on a car. Whether the car has front-wheel or four-wheel drive, any quick deceleration also causes the front wheels to lock up.

The best thing to do (to prevent wheel lockup) is put it in neutral and let the car roll free. On slick ice, three to five miles per hour is the maximum safe speed. Even then, a vehicle with locked brakes will slide in a straight line for 30 to 40 feet.

Maintaining a safe distance between cars is crucial. On snow or ice, the stopping distance goes up seven or eight times.

During the sunny part of the day, snow may melt and run across the highway. In the early evening, it freezes and forms barely visible black ice. Those who hit the ice at normal speeds will lose control.

Ice frequently forms on bridges, even though the rest of the road is dry. Cold air flowing under the bridge causes moisture to condense on the surface, forming black ice.

Stop signs in a populated area can cause serious pileups. If it's a busy spot, the engines of the stopped cars warm the ice. When the vehicles leave, the slush freezes again. Eventudally the slush becomes glare ice, which causes drivers braking at the stop sign to slide into the intersection.

Some drivers are confused by the term "turn into the skid" and they turn the wrong way. Instead, they should turn in the direction the back of the car is going. If the back of the car is going to the right, steer to the right. If to the left, turn to the left.

Highway patrolmen add that seemingly minor errors often contribute to serious accidents: Someone loses control of the vehicle and slides into a snowbank. The operator gets out and stands around on the road. The next driver coming along, panics and hits the brakes, pinning the person on the road between the cars. People should stay in their cars until help arrives. If, for some reason, you have to leave the car, go to the highest part of the road and wait there.

CHAIN-REACTION CRASHES

Chain-reaction accidents are common in winter--especially when drivers encounter a super-elevated curve. The best procedure for a driver in that spot is to pump the brakes. If that doesn't slow you down, highway patrolmen suggest looking for a place to put the car, driving off the road and around a pileup, if that's a possible alternative.

Snowplows usually leave a windrow to one side. If you hold the wheel very tightly and ease into the windrow, that should slow you down.

If none of those options is available, highway patrolmen recommend heading into a snowbank. There's a good possibility you won't injure anybody, including yourself, and your insurance company won't be so upset. Stay inside your car so somebody doesn't run into you.

Drivers are urged not to gain a false sense of security by driving with chains or studded tires, or in four-wheel-drive vehicles. All of these features are designed to make a car go, not to stop it. A four-wheel-drive vehicle won't stop more quickly than any other.

During training courses the basics are stressed. A lot of drivers, even professionals, court trouble by ignoring elementary precautions such as these:

* Don't wait until a blizzard hits before winterizing. On long drives, pause now and then to look for accumulations of ice under the fenders that may hamper steering.

* Avoid situations that might call for sudden stops. Signal for turns or stops well in advance. When starting out in deep snow, accelerate gradually to get traction.

Be on the lookout for icy spots on northerly slopes, shady places and underpasses.

* Don't use the emergency-parking brake under adverse winter conditions. There's little to prevent the brakes from freezing in a locked condition against the drum. Park a car with a manual transmission in first gear or reverse. With an automatic transmission, leave the vehicle in the parking position.

SPECIAL HAZARDS

Highway patrolmen make note of some special hazards for drivers:

Whiteouts: Whiteouts can be deadly. When it has snowed or is snowing and the flakes are still loose, the powdery stuff is whipped across the highway by the wind, reducing visibility to zero.

Snow burdens: Motorists often drive around with snow piled on the roofs of their cars. The load suddenly slides down over the windshield, totally obscuring their vision.

Unexpected berms: Thoughtless residents living along a highway shovel snow into the road. A speeding car hits the berm and is thrown out of control.

Highway glare: The low winter sun is a hazard on east-west oriented roads. Chrome windshield wipers throw off a blinding glare. Sunglasses are a must.

Slush: Midday warmth turns ice and snow to slush. Dirty slush on the windshield means poor visibility. One remedy is to keep a good distance from the car ahead. Another is to have the tank under the hood filled with full-strength washing compound. Diluted solutions may work well at moderately low temperatures, but at below zero, a thinned-down solution will freeze immediately after hitting the windshield.

Avalanche: In some mountain areas, avalanches are frequent after a heavy snow. A motorist who sees an avalanche dropping should keep the car going as best he can. If buried, patrolmen recommend shutting off the ignition. Blow your horn intermittently so searchers will know where you are.

Warning is given against sitting with the engine running and the heater turned on. Carbon monoxide is a subtle poison. It is safe to turn the engine on periodically, but be sure to crack a window.

Always make a point of reminding yourself that becoming a competent, bad-weather driver is not a one-time thing, but requires continuing practice. The main thing is to learn how to handle situations without panicking. It's a good idea not to drive too aggressively until you get the hang of it.

H.S.A. SAFETY TOPIC

SOUND WAVES

Measured (2) Ways:

1. **FREQUENCY**

This is pitch (high or low) of a sound--it's the number of cycles or complete sound waves per second. Cycles per second (cps) are also called "Hertz" (Hz).

Healthy human ears hear sounds between a low pitch of 20 Hz up to a pitch of 14,000-20,000 Hz.

Normal speech occurs between 500-2,000 Hz.

2. **INTENSITY**

The higher an ocean wave is - the more powerful it crashes ashore. The higher the sound wave is - the louder the sound.

Loudness is measured in units called "decibles" (dB). This means that 110dB is not 10% greater than 100dB, but roughly 10 times as loud. A 5dB increase makes sound twice as loud. More dB's - the louder the sound.

NOISE LEVELS - WHATS TOO MUCH?

Shotgun blast
(140dB's) **Pain begins**

Jet plane takeoff
(130dB's)

Coarse grinding
(120dB's)

Rock 'n Roll bands
(110dB's)

Power saws
(100db's) **There are legal limits on noise in the workplace**

Lawnmower engines
(100dB's)

Alarm clocks near ears
(90dB's)

Noisy restaurant
(80dB's)

Workers may not be exposed to more than an average of 90dB over an 8 hour period without hearing protection.

Normal conversation
(60dB's)

Soft whisper
(30dB's)

THE LOUDER THE NOISE AND THE HIGHER IT'S FREQUENCY, THE MORE DAMAGING IT CAN BE.

BEWARE! Everyone is affected by EXCESSIVE NOISE to some degree, depending on:

LOUDNESS

PITCH

EXPOSURE TIME

OTHER FACTORS: Age, Health, History, etc.

The only way people "adjust" or "get used" to noise is by LOSING THEIR HEARING.

CONTROL OF NOISE

There are regulations governing exposure of workers to noise in the workplace. The regulations set exposure limits and detail employer and employee responsibilities when the limits are exceeded.

HEARING PROTECTION

Those employees who are exposed to excessive noise need hearing protection. Suitable hearing protection MUST be worn while working! Personal protection is your best protection.

USE EARPLUGS, CANAL CAPS OR EARMUFFS.

H.S.A. SAFETY TOPIC

SAFE TRUCK OPERATIONS

The safe operation of trucks depend on the skills and knowledges of many people in the mineral industry. The people who design and build the roadways on which the trucks operate and the mechanics that perform the necessary maintenance on the trucks have a large part to play in the total picture of safe truck operations. The primary responsibility, however, for the safe truck operations rests with the driver--the one that moves the truck. The driver should be aware of the responsibility at all times and should be on the alert to recognize the hazards involved.

A really skilled driver is one that can boast of the ability to handle the truck, as well as a safety record of no accidents or injuries. How does a driver become skilled? By learning how to handle the truck under all conditions and by following a few simple steps that help reduce hazards involved in driving to a minimum.

What are some of the rules that a skilled driver follows?

1. Inspect the vehicle at the beginning of the shift, using a checklist and immediately report any defects to the supervisor or to the maintenance department. Emergency brakes as well as regular brakes should be inspected.

2. Before a vehicle is moved, the driver will insure that the pressure for the airbrakes is built up to operating pressure.

3. Before moving the vehicle, the driver will check to make sure that the area is clear and will sound the horn or siren to alert people to the fact that the truck is being moved. The truck should never be moved while there are people in the area directly in front or in back of the vehicle.

4. The driver will maintain a speed on the roadways consistent with the conditions of the roadway and traffic present. Never coast on a downgrade, but engage the proper gear prior to entering the grade (usually the same gear used coming up the grade).

5. The driver will be aware of all happening in the area and will maintain a distance of two-truck lengths for every 10 miles of speed behind another vehicle.

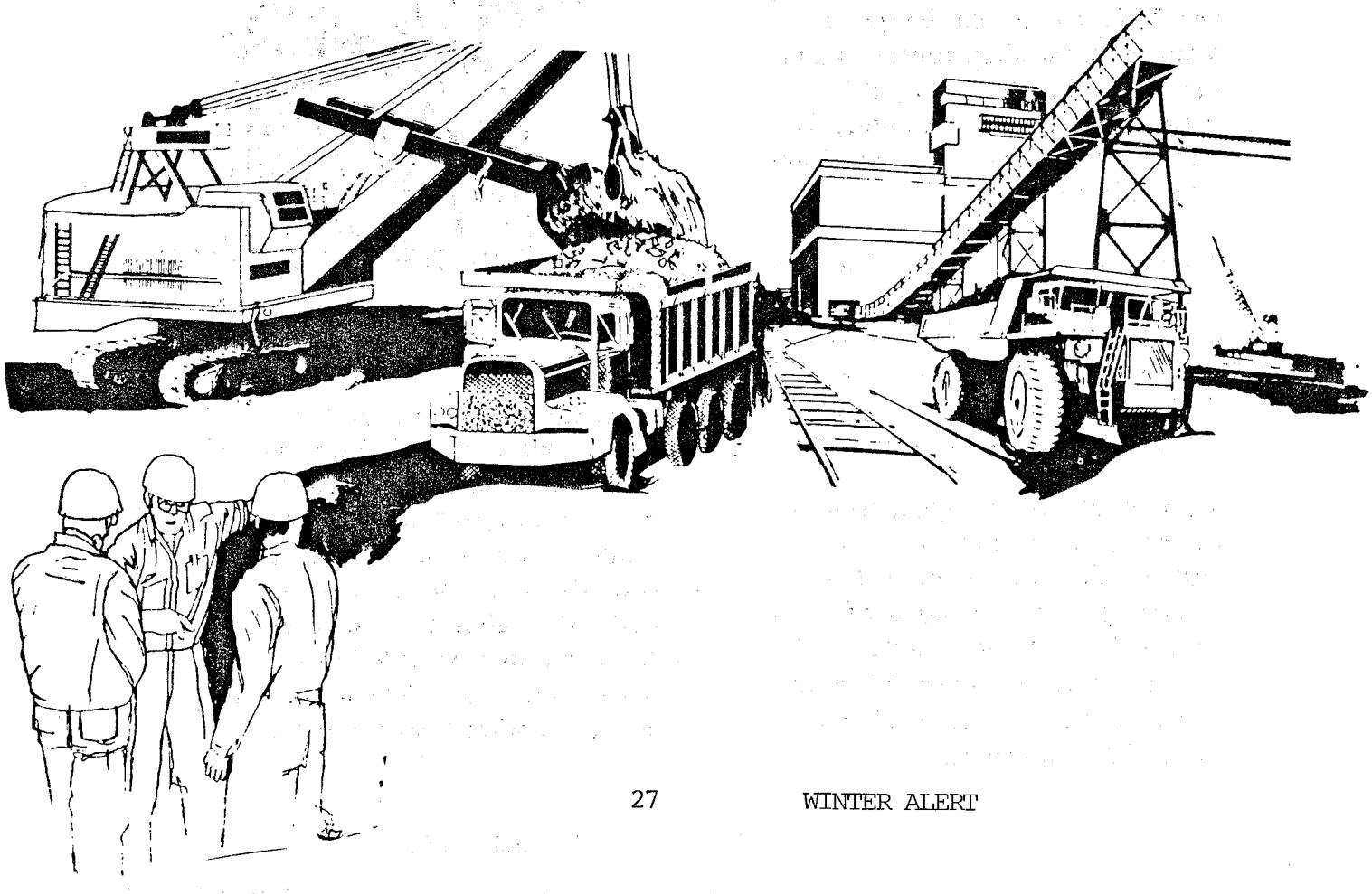
6. The driver maintains full control of the vehicle by having a firm grip on the steering wheel with the thumbs on the outside of the wheel to avoid steering-wheel spins.

7. If drowsiness occurs, the driver should not operate the vehicle but pull out of the line of traffic and stop to avoid an accident.

8. The driver continuously oberves the conditions of the roadway ahead to avoid hitting rocks and holes which may cause losing control of the vehicle.

9. While waiting for an area to load, the driver parks in a clear space with the front of the truck toward the shovel or loading pit so that the presence of personnel or equipment can be observed. The driver also follows the traffic patterns established at the loading area and the dump.

IF YOU FOLLOW THESE "RULES OF THE ROAD", YOU WILL BECOME A SKILLED DRIVER WITH A ZERO-ACCIDENT RECORD.



THE LAST WORD

Three strikes and you're out!

Safety is a matter of respecting yourself. People who keep ignoring safety don't respect themselves or other workers.

One man working for a company for quite awhile, slipped into sloppy habits. You must be extremely careful when handling acids. They can be very delicate items. The first or second time the safety manager said something to the man, he would say, "What are you picking on me for?" Then he would say, "I'll try my best." He would spot the safety manager in the shop afterward and say, "Look, I'm doing it right." Watching from the mezzanine, the safety manager would see him doing it his old way.

On the door of the safety office was a saying, "Three strikes and you're out!" just like in baseball. The first time is to protect you. The next time it's to protect the other man. The third time it's done for both of you.

Most people will change their ways when you hit them in the bread basket. When they know if they keep it up, they'll be looking for another job. This man had a complete lack of respect. He didn't argue when he was fired. He knew he had had his strikes.

About three or four months later, he swallowed his pride and came back looking for work. The safety manager gave him another chance. This time he was no problem--super careful. The unemployment lines can do that to you.

HAPPY THANKSGIVING

To communicate efficiently is not simple and foolproof. Some writer says that in every conversation between two people, six persons are really present; what each says are two; what each means to say are two; and what each thinks the other is saying are two. Granted this, it makes one wonder how we get along with each other as well as we do.

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United States Department of Labor

MSHA

Mine Safety and Health Administration

HOLMES SAFETY ASSOCIATION MEETING REPORT FORM

For the month of _____

TOTAL meetings held this month _____

TOTAL attendance this month _____

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

_____
(Signature)

_____
(Telephone No.)

_____
(Title)

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NOTE: BE SURE OUR ADDRESS SHOWS

If you do not care to receive this Bulletin, please check here ☐ and return this form.

Please include any change of address below:

Joseph A. Holmes Safety Association

Awards Criteria--Outline

Type "A" Awards - For Acts of Heroism

The awards are medals with Medal of Honor Certificate.

Type "A" - For Acts of Heroic Assistance

The awards are Certificates of Honor.

Type B-1 Awards - For Individual Workers

(40 years continuous work experience without injury that resulted in lost workdays)
The awards are Certificate of Honor, Gold Pins and Gold Decal.

Type B-2 Awards - For Individual Officials

(For record of group working under their supervision)
The awards are Certificate of Honor.

Type C Awards - For Safety Records

(For all segments of the mineral extractive industries, meeting adopted criteria)
The awards are Certificate of Honor.

Other Awards - For Individual Workers

(For 10, 20, or 30 years without injury resulting in lost workdays)
The awards are 30 years - Silver Pin and Decal, 20 years - Bronze Pin and Decal, 10 years - Decal bearing insignia.

Special Awards - For Small Operators

(Mine operators with 25 employees or less with outstanding safety records)
The awards are Certificate of Honor: Contact: HSA Office

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

COME *Grow* WITH US