





United States Department of Labor

MSHA

Mine Safety and Health Administration

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ISHALL PASS THROUGH THIS WORLD BUT ONCE. ANY GOOD THEREFORE THAT I CAN DO, OR ANY KINDNESS THAT I CAN SHOW TO ANY HUMAN BEING, LET ME DO IT NOW. LET ME NOT DEFER OR NEGLECT IT, FOR I SHALL NOT PASS THIS WAY AGAIN.

SAFETY IS YOUR JOB

MANAGEMENT has the legal and moral responsibility to institute and maintain safety policy.

SUPERVISORS must make sure the safety standards are carried out.

THE MINER must adhere to the safety standards for his own sake and for the sake of others.

(Underground and Surface Mining Operations)



Session LXIV

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Federal Mine Safety and Health Act of 1977

Section 303(h)

Part 75.308 of the Code of Federal Regulations

Methane Accumulations in Face Areas

In the past three sessions we have been talking about the requirements of the Law which require a number of different types of examinations that must be conducted during and prior to the working shift. We have discussed the preshift examination which is made 3 hours prior to the beginning of any shift, weekly examinations that are required, and also the examinations that shall be made prior to and during the operation of electrical equipment.

Today I would like to discuss the action that should be taken if an accumulation of methane is found during examinations conducted in the face areas. The Law specifically requires that if at any time the air in any working place (a working place is all workings inby the last crosscut) when tested at a point not less than 12 inches from the roof, face, or rib contains 1.0 volume per centum or more of methane, changes or adjustments shall be made at once in the ventilation in such mine so that the air shall not contain more than 1.0 per centum of methane. While such changes or adjustments are underway and until they have been achieved, power to electrical face equipment located in such place shall be cut off. No other work shall be permitted in the place, and due precautions shall be carried out under the direction of the person in charge so as not to endanger other areas of the mine. If at any time such air contains 1.5 volume per centum or more of methane, all persons, except those needed to correct the situation, shall be withdrawn from that endangered area of the mine to a safe location, and all electrical power shall be cut off from the endangered part of the mine until the air in such working place shall contain less than 1.0 volume per centum of methane.

The "changes or adjustments" which shall be made in the ventilation means increasing the quantity or improving the distribution of air in the affected working place to the extent sufficient to reduce and maintain the methane content less than 1.0 volume per centum when operations are resumed. While making changes or adjustments because of an accumulation of methane in

a working face, precautions must be taken so as not to endanger another area of the mine. Tests to determine whether methane in the amount of one percent or more in any working place shall be made at the farthest point of advance where the tests can be done safely. This does not preclude the test for methane beyond the toe of the coal fall.

This provision makes it perfectly clear that responsible persons have an obligation to take positive steps where there is a methane buildup. Production must cease and all efforts must turn to reducing the danger when methane reaches the one-percent level. As you are all aware, the explosive range of methane is between 5 and 15 percent. Once it reaches 1.5 percent, it can accumulate rapidly. Thus, action must be taken promptly before it reaches 1.5 percent.



Mandatory Safety Standards, Surface Coal Mines and Surface Work Areas of Underground Coal Mines

Fire Protection

Subpart L

<u>Sections 77.1100 - 77.1103</u>

In today's session we will begin our discussion of Subpart L - Fire Protection. As we discuss this subpart, you can readily see that these safety standards can be listed into three categories: 1. Means to prevent fires, 2. means to fight fires, and 3. means to escape from fires.

Section 77.1100 - Fire protection; training and organization.

Adequate firefighting facilities and equipment shall be provided proportionate with the potential fire hazards at each structure, enclosure, and other facility (including custom coal preparation) at the mine; and the employees at such facilities shall be instructed and trained annually in the use of such firefighting facilities and equipment. The firefighting organizational plan should include a list of the persons trained and a written plan for extinguishing a fire if one should occur. The written plan should include a list and location of firefighting equipment. The scope of the training shall be proportionate with the size of the buildings and machinery involved and related to the number of employees. Further information can be obtained from the "Fire Protection Handbook" published by the National Fire Protection Association, Section II.

Section 77.1101 - Escape and evacuation; plan.

Each operator of a mine shall establish and keep current a specific escape and evacuation plan to be followed in the event of a fire. This requirement refers primarily to surface structures, such as preparation plants, drawoff tunnels, shops, and other buildings where persons work. All employees, including office and clerical personnel, shall be instructed on the current escape and evacuation plan, fire alarm signals, and applicable procedures to be followed in case of fire.

(For surface coal-mining operations)

Plans for escape and evacuation shall include the designation and proper maintenance of adequate means for exits from all areas where persons are required to work or travel including buildings and equipment and in areas where persons normally congregate during the work shift.

The escape and evacuation plan should be written and posted in a proper location.

Sound judgment should be used regarding the maintenance of exits from areas where persons are required to work or travel. For example, small washrooms and certain offices may be equipped with one exit as is common practice in surface buildings. However, large offices, generally those housing three or more people, wash and change houses, plants, shops, lunchrooms and the like shall have at least two exits. "Means for exit from all areas" means a continuous and unobstructed way of exit from any point in the building to a public way. The exits should be marked by readily visible signs, and every exit should be suitably illuminated.

Section 77.1102 - Warning signs; smoking and open flame.

Signs warning against smoking and open flames shall be posted so they can be readily seen in areas or places where fire or explosion hazards exist.

Section 77.1103 - Flammable liquids; storage.

- a. Flammable liquids shall be stored in accordance with standards of the National Fire Protection Association. Small quantities of flammable liquids drawn from storage shall be kept in properly identified safety cans.
- b. Unburied flammable-liquid storage tanks shall be mounted securely on firm foundations. Outlet piping shall be provided with flexible connections or other special fittings to prevent adverse effects from tank settling.
- c. Fuel lines shall be equipped with valves to cut off fuel at the source and shall be located and maintained to minimize fire hazards.
- d. Areas surrounding flammable-liquid storage tanks and electrical substations and transformers shall be kept free from grass (dry), weeds, underbrush, and other combustible materials, such as trash, rubbish, leaves and paper, for at least 25 feet in all directions.

Referring to the standards of the National Fire Protection Association and the applicable portion in Code No. 30, Flammable and Combustible Liquids, the requirements for storing flammable liquids are:

Buildings or rooms within buildings in which flammable and combustible liquids are stored shall be of non-combustible structure, including walls, floor, and ceiling; properly ventilated and, where possible, located away from stairways or exits. If heated, only electric, hot water, or low-pressure steam shall be used.

Drums and other containers stored in the open shall be located to reduce the spread of fire to other materials in storage or other property areas. The surrounding area shall be kept free of combustible materials, brush, etc.

"Safety can" shall mean an approved container, of not more than 5 gallons capacity, having a spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure.

Fatalities in U. S. Mines During 1977 and 1978



METAL/NONMETAL*

Total Fatalities	
	136
Underground Mines	134
39 42	en e
Open-pit	
13	MAKE SAFETY SHINE
Stone	IN '79
23	
Sand and Gravel	United States Department of Labor MSHA Mine Salety and Health Administration
25 25	
Mills	
36 32	*Preliminary data for 1978
COAL	
Total Fatalities	
	139
Underground Mines	
57	91
Strip and Auger Mines	
27	
Surface Area of Underground Mines	
11	
Preparation Plants	1978
10	1977



Working Around Storage Bins -- Part II

Today we will continue with the closing discussion on the hazards and safety precautions to adopt while working around storage bins.

When we open the door to the storage bin, what do we see? Usually, nothing, because most bins do not have enough light to see. In places like that, workers have been known to plunge head first into the bin and not come out alive. Handling material, and slips and falls are the most common accidents in all types of mining. Such accidents are almost inevitable with the present lighting in many storage bins. If for no other reason than self interest, management must provide adequate light in all work areas. If people working in the areas cannot see objects that can trip them, they most likely will fall. If they cannot see sharp edges or other hazards on something they are trying to lift, they most likely will be injured.

Now, we open the door to the bin and it is well illuminated. What do we see? We should see a permanent walkway or work platform with adequate railing built around the top of the bin. If we do not see a work platform, we should see guard rails behind the door to prevent anyone from going inside.

Why should anyone want to look inside a bin anyway? Generally, because material has stuck to the sides of the bin and it will not move. Where that condition exists, what can be done? Vibrators could be built on some bins that could be used continuously and automatically when material is pulled from the bins. In some bins, vibrators are not practical. In such bins, air lances could be used from the work platform. Obviously, some adequate means is required to control dust where air lances are used. No way should any person try to pick down material while standing on the material -- no way, if that person wants to keep on living.

People who work around hoppers may think hoppers are harmless. However, they have the same hazards as their big brothers, the storage bins. A worker who enters a hopper is saying, in effect, that they are tired of living. Companies should install permanent rails over the top of hoppers to prevent anyone from entering them.

(Underground and Surface Operations - Noncoal)

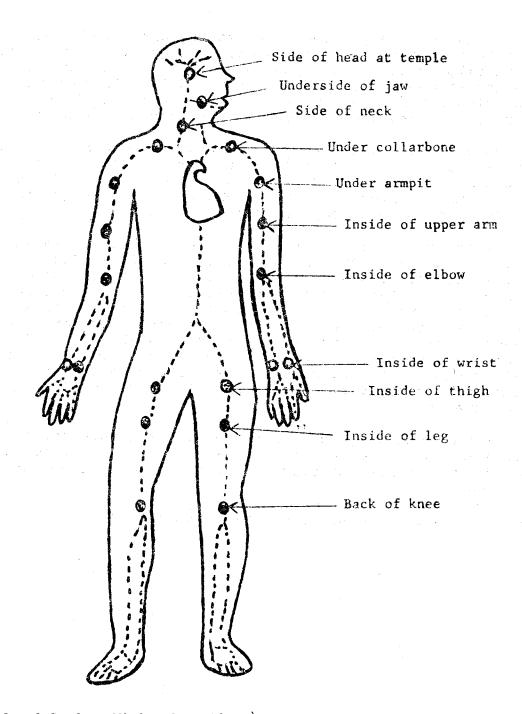
Surge piles have the same killing characteristics as storage bins. No one interested in breathing should ever stand or walk on a surge pile. In some locations materials will bridge up over bars used for rough sizing at the top of a draw hole. People have been killed when they broke such a bridge and fell through the bars into the material storage area below. There is no safe way to stand on a bridge and break it. Each company with a problem caused by material bridging must design some mechanical means to eliminate bridges that form. Mechanical means may be expensive; but, how much is a life worth?

The following are a few examples of men who were killed in storage bins:

- 1. A man died in Tennessee when he either tripped or lost his balance as he attempted to enter the doorway leading to the uncovered and unguarded ore bin.
- 2. A man died in Alabama when he either walked or stepped on bridged material over a drawpoint. The bridge collapsed and the victim fell to the bottom of the chute. He was covered with loose material and suffocated.
- 3. A man died in Texas when he and three other men were working inside a storage tank with hand shovels when the material started to cave. A cutting torch was used to cut a hole in the lower part of the tank through which the victims' body was removed.
- 4. A man died in Iowa when he was buried in a fine clay bin at an operation where he had worked for eight years.
- 5. A man died in Minnesota when he disappeared into a surge drawhole.



DO YOU REMEMBER THE PRESSURE POINTS? ? ?



(Underground and Surface Mining Operations)



Part 3 - Lifting and Handling Material

In two of the previous meetings we discussed some of the points to consider when handling material, concentrating principally on the procedures to be followed when a job is required of one person. Today we would like to continue our discussion on this subject with the emphasis on the problems of material handling when two or more persons are required.

When two or more persons are required to carry any item, such as heavy timbers or rails, the same hazards exist as with the one-man carry. Teamwork can overcome this problem so that all persons involved will understand the action sequence and will be able to work together safely in this duty.

If one person is a little slow on the lift or in lowering, the extra load will be thrown on this individual, increasing the possibility of a strain or causing him to lose his hold. Getting out of step is still another item to be reckoned with and increases the chance of a stumble and fall. When setting down a load, extreme caution should be your watchword. All persons should know exactly what to do and when to do it, or someone may get hurt. Each of you can easily imagine what the final results might be if, due to a mistake on someone's part, a long rail or heavy timber got out of control while it was being lowered.

In the following message the action sequence for a carrying operation, involving two or more persons, will help to reduce some of our material-handling injuries. This will be continued next month.

(For underground and surface mining operations)

ABSTRACT FROM FATAL ACCIDENT

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC



FATAL SURFACE FALL-OF-PERSON ACCIDENT

General Information: A quarry foreman was fatally injured when an approximate 10-foot-wide by 20-foot-long bench edge sloughed off and dropped him and the material from a highwall. The victim's total mining experience was unknown, but he had been employed as an equipment operator at this mine for 17 years.

The previous mining method utilized coyote blasting with the end result being an approximately 600-foot-high quarry face.

<u>Description of Accident</u>: The victim reported for work at his normal starting time. His new job as quarry foreman required him to train employees in the safe operation of bulldozers on the quarry benches. He had two employees operating bulldozers under his direct supervision.

An operator trainee was working in the middle of the bench, away from the bench edge. The victim stopped him and discussed what he wanted him to do. A bulldozer operator (witness) was working the south end of the bench. The victim was aware that this area was hazardous and would not allow the bulldozer operator to push material unless he was right there to tell him where to stop and when to back up.

The bulldozer operator stated that the victim got on the dozer with him and discussed what he wanted him to do. He then went to an area that was flat, 10 feet back from the bench edge. This area was estimated to be about 10-feet wide and 20-feet long, and had appeared solid to everyone who had been in the area. On a horizontal plane to the bench edge, it was in front of and to the side of, the bulldozer that the bulldozer operator was operating.

The victim signaled for the bulldozer operator to back up. As he started back, he saw the flat area slough off with the victim desperately trying to get to solid ground. The victim was standing about 10 feet back from the edge, right at the point where the ground gave way.

The fog prevented the bulldozer operator from seeing where the victim was, so he went after the operator trainee for help. The operator trainee went around the steep bank and proceeded down the slope until he located the victim, some 300 feet down the face. Realizing that he could not help him, the operator trainee continued down the slope to meet the bulldozer operator who had gone for medical help.

Distribution: Surface mining operations; noncoal

When the operator trainee returned with the first-aid team, they found that the victim had succumbed. Death was caused by massive head injuries.

<u>Cause of Accident</u>: The direct cause of the accident was the sloughing of the bank. Seriousness of the accident (the fatal injury) was caused by the victim placing himself in an unsafe position to the front of, and to the side of, equipment operating on the unstable bench of a highwall.

U - Underground

S - Surface P - Plant

Report of Holmes Safety Association Safety Chapters

September 1979 MSHA State Management Management

Established Second Quarter 1979 (cont.)

	}		P 2			Member- ship	Charter No.	City	County	State	Established By	Date	Council Affiliation
Chapter	Mine	Company	Product		S P	Snip		Creg	county				
Windfall Sand & Gravel	Windfall Sand & Gravel	Martin Marietta Aggregates	sand/ gravel	Х	·	6	2757	Windfall	Tipton	IN	3CA Bliss	4/19	Nonaffiliated
Kokomo Stone	Kokomo Stone	Martin Marietta Aggregates	stone	X		21	2758	Kokomo	Howard	IN	³ CA Bliss	4/19	Nonaffiliated
Victory Sand	Victory Sand	Martin Marietta Aggregates	sand	х		Ъ	2759	Topeka	Shawnee	KS	³ CA Bliss	4/19	Nonaffiliated
Noserock #1	Noserock #1	Phillips Uranium	uranium	Х	Mill	200	2760	Crown- point	McKinley	NM	¹ MD Delridge		Uranium Operators'
Sandrack	Sandrack	Hallmark & Sons Coal Co	coal	X		13	2761	Leesburg	Cherokee	AL	JH Johnson A Scott	4/23	Nonaffiliated
Inland Steel Mine #2	Inland Steel Mine #2	Inland Steel	coal	х	Х	700	2762	McLeans- boro	Hamilton	${ m IL}$	¹ BA Gibbs ³ R Banks	5/1	John E. Jones
Pitt Gas Mine	Pitt Gas	Canon Coal	coal	X		50	2763	Clarks- ville	Greene	PA	J Takacs M Remington	5/4	Scotty Groves
Rock Salt Mine	Rock Salt	Cargill, Inc	rock salt	X		200	2764	Lansing	Tompkins	NY	³ CE Bednar- czyk	6/1	Nonaffiliated
Winkelman Mill	Wilkel- man Mill	McFarland and Hollinger	silica/ c limestone		Mill	. 12	2765	Winkelman	Pinal	AZ	1 WHHoover 3 WD Nelson	6/5	Nonaffiliated
Fidler	Fidler	Fidler, Inc.	sand/ gravel	Х		10	2766	Goshen	Elkhart	IN	¹ BA Gibbs	6/12	Nonaffiliated

 U - Underground S - Surface

Report of Holmes Safety Association Safety Chapters

P - Plant

Established Second Quarter 1979

September 1979

MSHA¹
State²

Management³

Chapter	Mine	Company	Product	υ	S P	Member- ship	Charter No.	City	County	State	Established By	Date	Council Affiliation
#21 U.G.	#21 U.G.	Cal-Glo Coal	coal	Х		55	2747	Williams- burg	Whitley	EKY	JH Johnson B Wright J Daniels	: 4/1	Nonaffiliated
#23 U.G.	#23 U.G.	Cal-Glo Coal Inc.	coal	Х	-	55	2748	Williams- burg	Whitley	EKY	JH Johnson B Wright J Daniels	4/1	Nonaffiliated
#24 Surface	#24 Surface	Cal-Glo Coal Inc.	coal			24	2749 -	Williams- burg	Whitley	EKY	JH Johnson B Wright J Daniels	4/1	Nonaffiliated
Engle Hollow Strip	Engle Hollow Strip	Cal-Glo Coal Inc.	coal	Þ	2	27	2750	Williams- burg	Whitley	EKY	JH Johnson B Wright J Daniels	4/1	Nonafffiliated
Cal-Glo Prep	Cal-Glo Prep	Cal-Glo Coal Inc	coal		X Cor	. 58 .	2751	Gatliff	Whitley	EKY	l 2JH Johnson B Wright 3J Daniels	4/1	Nonaffiliated
R and A Mine	R and A Mine	R and A Mine Consulting Co.	coal/ other	Х	Mil	20 nst.	2752	Sumiton	Walker	AL	l JH Johnson R Reeder	4/2	Nonaffiliated
Thompson Bros. Coa.	Thompson Bros.	Thompson Bros. Coal	coal	٥	7	10	2753	Philips- burg	Centre	PA	1 G Walaitis	4/8	Clearfield
Penn Coal	Penn Coal	Penn Coal Co., Inc.	coal		2	50	2754	Philips- burg	Centre	PA	G Walaitis	4/8	Clearfield
Coal Systems	Coal Systems	Coal Systems Inc.	, coal	. 2	X	75	2755	Birming- ham	Jeffer- son	$_{ m AL}$	JH Johnson M Graves	4/11	Nonaffiliated
Kokomo Sand	Kokomo Sand	Martin Marietta Aggregates	sand/ gravel		ζ .	7	2756	Kokomo	Howard.	.IN .	³ CA Bliss	4/19	Nonaffiliated

The Last Word

"SEPTEMBER"

The name of this month comes from the Latin word meaning seven, and it was the seventh month of the Roman Calendar (beginning with March). September is the ninth month according to our reckoning. It has always had 30 days. It is pre-eminently the harvest month, and in it occurs the Autumnal equinox.

The first Monday in September has been set aside as Labor Day, a legal holiday in honor of the wage earners of this nation. Labor has played an integral part in bringing about many humanitarian reforms and laws to regulate protection against industrial accidents and providing compensation for unemployment.

Prevention of accidents cannot be controlled by laws alone. The workers must have a sincere desire to accept the rules of safety and above all cultivate a safety attitude.

THE LAST WORD

"My wife says that if I don't give up golf, she will leave me."

"Well, that is tough."

"Yes, I will miss the old girl."

It's not what children know that worries the parents nowadays. It's how they found out!

Insurance agent: "Now fill out this blank, and we will give you a check."

Woman: "You know, I've had so much trouble getting this money that sometimes I wish my husband hadn't died!"

Two expectant fathers were nervously pacing the floor in the waiting room of a maternity hospital. "What tough luck," grumbled one. "this had to happen on my vacation."

"You think you've got troubles?" replied the other, "I'm on my honey-moon."

Did you hear about the girl who was so thin, that she received federal aid for underdeveloped areas.

(Underground and surface mining operations)

A SAFETY ENGINEER'S PRAYER

Give me good digestion, Lord, and also something to digest; Give me a healthy body, Lord and the sense to protect and keep it at its best. To keep the good and pure in sight; which seeing fault is not appalled, but finds a way to set it right. Give me a mind that is not bored, that does not whimper, whine or sigh; Don't let me worry overmuch about this fussy thing called "I". Give me a sense of humor, Lord, give me the grace to see a joke, to get happiness in life by saving life and pass it onto other folk.

"DO YOU KNOW"

The coal that most of us use daily is in a place where we might least expect it - in the mouthpiece of the telephone. Every telephone handset contains a small quantity of carbon granules made from anthracite, the hardest kind of coal. These granules after careful treatment, transform the sound waves created by your voice into waves of electrical current that are transmitted along the telephone wires. When your voice vibrates the diaphragm in the telephone mouthpiece, the diaphragm pulses against the granules and changes the intensity of the current flowing through them.

"HARVEST"

September pre-eminently is the month of "Harvest". During this season, mankind, since time immemorial celebrated harvest festivals. Pagan people celebrated through religious ceremonies in times of peril and disaster and equally to give thanks for Nature's annual bounty, which was gathered and stored for use during the long winter months ahead.

Our nationwide accident record for 1979 to date has not been good and much improvement is desired. During this harvest season, all of our know-how should be gathered along with added desire in improving our record to reduce accidents. Special attention should be given now to improve dust control and to re-rock dust areas which were seasonally wet during the summer months.