



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Mine Safety

Pennsylvania's Culture of Safety

Measuring Progress Toward a Safety
Culture of Prevention in Mining

Joseph Sbaffoni
Director; Bureau of Mine Safety

June 13, 2012

Mission Statement

The Bureau of Mine Safety's mission is:

- to reduce the possibility of accidents and eliminate fatalities in the underground mines and commercial operations
- to protect the property connected therewith and to provide for the health and safety of the general public
- To see that all miners return home safe and healthy at the end of each work shift

- **The Bureau of Mine Safety is responsible for the health and safety of miners in all underground mines throughout the Commonwealth.**
- **In order to accomplish this objective, the Bureau engages in the following primary services:**
 - **Mine Inspection**
 - **Plan Approvals**
 - **Equipment Approvals**
 - **Certifications**
 - **Training of Miners**
 - **Accident Investigation**
 - **Emergency Response**

Mine & Electrical Safety Inspections

The Bureau is mandated to inspect all underground operations in the Commonwealth.

This provides a presence and a voice to promote safety throughout the industry

Bituminous

SAFETY LAWS OF PENNSYLVANIA

FOR

UNDERGROUND BITUMINOUS COAL MINES Act 55, SB 949 Session of 2008 *Compiled by the* DEPARTMENT OF ENVIRONMENTAL PROTECTION

Editor's Note: This book is an unofficial compilation of the Mine Safety Laws of the Commonwealth of Pennsylvania. It has been prepared for the convenience of Commonwealth employees. It is not to be taken as the official text. The official text can be found in Title 52 of Purden's Pennsylvania Statutes Annotated.

Effective Date January 3, 2009

Industrial Minerals

CHAPTER 207. NONCOAL UNDERGROUND MINES

Subchap. Sec.

A. GENERAL ... 207.101

B. NONCOAL UNDERGROUND MINES ... 207.201

C. MINED-OUT AREAS ... 207.301

Authority

The provisions of this Chapter 207 issued under sections 2(f) and 12 of the act of May 18, 1937

of the act of CHAPTER 207. NONCOAL

UNDERGROUND MINES

Subchap. Sec.

A. GENERAL ... 207.101

B. NONCOAL UNDERGROUND MINES ... 207.201

C. MINED-OUT AREAS ... 207.301

Authority

The provisions of this Chapter 207 issued under sections 2(f) and 12 of the act of May 18, 1937

(P. L. 654, No. 174)(43 P. S. § § 25-2(f) and 25-12); and sections 1917-A and 1920-A of the Administrative Code of 1929 (71 P. S. § § 510-17, and 510-20, unless otherwise noted.

Source

The provisions of this Chapter 207 adopted December 1, 1972, 2

Pa.B. 2262, unless otherwise noted. May 18, 1937

(P. L. 654, No. 174)(43 P. S. § § 25-2(f) and 25-12); and sections 1917-A and 1920-A of the Administrative Code of 1929 (71 P. S. § § 510-17, and 510-20, unless otherwise noted.

Source

The provisions of this Chapter 207 adopted December 1, 1972, 2
Pa.B. 2262, unless otherwise noted.

Anthracite

PENNSYLVANIA ANTHRACITE COAL MINE ACT ARTICLE I APPLICATION, DEFINITIONS, ADMINISTRATION Section 101. Short Title

This act shall be known and may be cited as the "Pennsylvania Anthracite Coal Mine Act."

Section 102. Application

This act shall apply to every anthracite coal mine or colliery in the Commonwealth of Pennsylvania.

Section 103. Definitions

Subject to additional definitions contained in the subsequent articles, or sections hereof, and unless the context otherwise requires, in this act the following words and terms shall have these meanings:

- (1) "Abandoned workings," excavations, either caved or sealed, that are deserted and in which further mining is not intended.
- (2) "Active workings," all places in a mine that are ventilated and inspected regularly.
- (3) "Anthracite mine," shall include any coal mine not now included in the bituminous boundaries.
- (4) "Approved," which is used in connection with equipment, supplies, explosives and lamps, means "approved for use in anthracite mines by the secretary," whether such approval has been made prior to or subsequent to the effective date of this act.
- (5) "Coal mine or colliery," includes every operation and work, both underground and aboveground, used or to be used for the purpose of mining and preparing coal.
- (6) "Department," the Department of Mines and Mineral Industries organized and operating in the Commonwealth of Pennsylvania, hereinafter referred to as the "department."
- (7) "Deputy Secretary of Mines and Mineral Industries," a person appointed by the secretary, with the approval of the Governor, to assist and aid the secretary in carrying out the provisions of this act, hereinafter referred to as the "deputy secretary."

Mine Plans

The Bureau's engineers review mining plans to assure engineering principles are in effect and check for compliance with appropriate statutes

The Bureau maintains an extensive repository of active and abandoned mine maps in the Commonwealth

The maps are of critical importance in charting new courses of mining and in making subsidence evaluations as a prerequisite to the construction of buildings, schools, highways, etc.

- Review all mining plans:

- Roof control
- Ventilation
- Auxiliary fan
- Fan Spray
- Scrubber
- Electrical
- Safety Zone
- Mine Void Evaluation
- Deep cut mining
- Mine opening
- Mine sealing
- Training
- Mine drainage
- Diesel-powered equipment

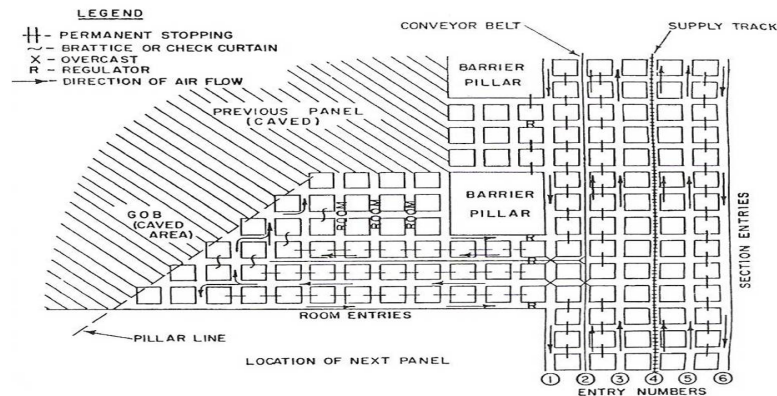
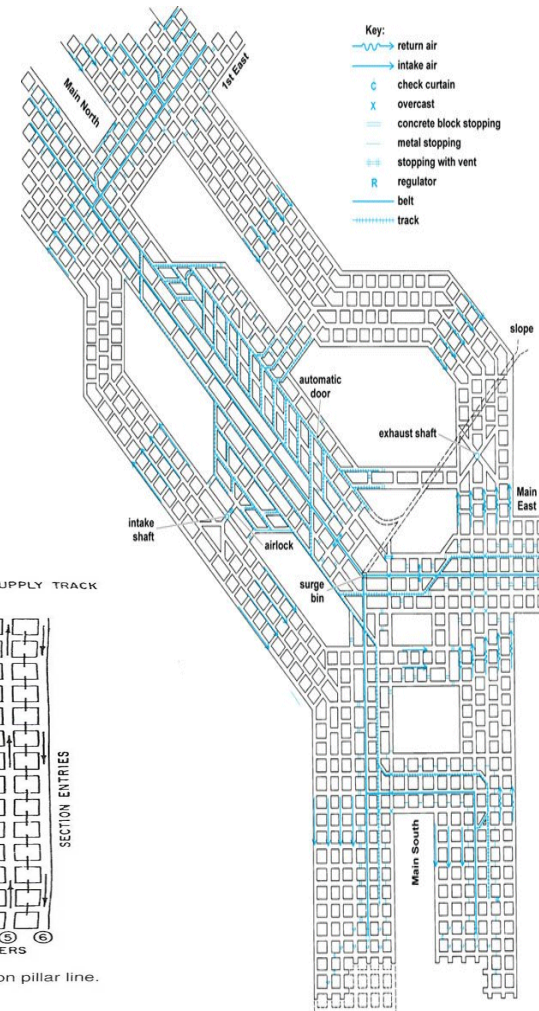
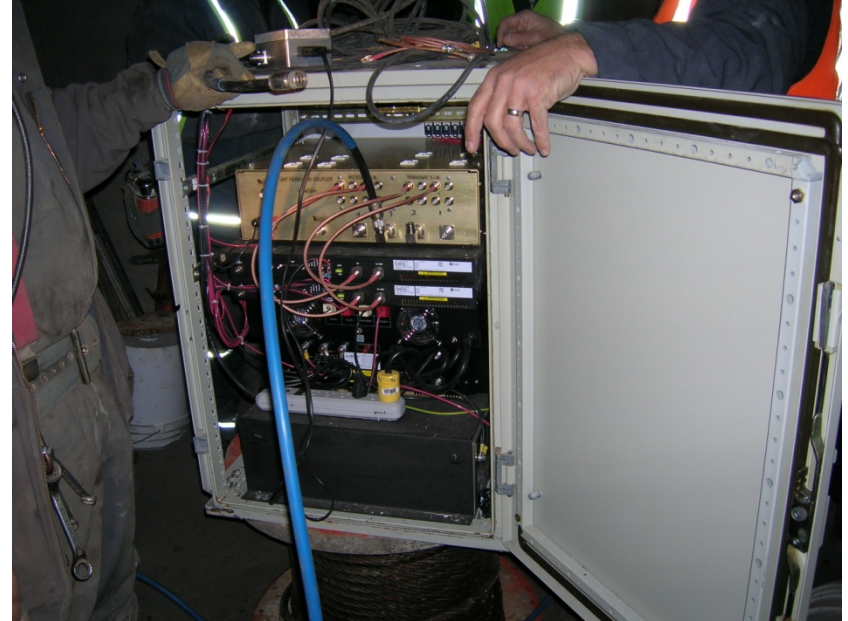


FIGURE 10.2. Room-and-pillar mining system showing all openings and the section pillar line.



Equipment Approvals

- **Pennsylvania has one the most stringent equipment approval process in the country**
 - **Mining equipment, power substations, fan installations, and personnel conveyances used at or in Pennsylvania underground mining operations must have Bureau approval before being placed in operation.**
 - **This approval is mandated and assures that mining equipment is designed and maintained in a safe condition.**
 - **Modification to the electrical circuitry or the physical components of the equipment must also receive approval.**
 - **Act 182 of 1996 includes a requirement for approval of diesel-powered equipment and operating plans.**



Mine Certifications

Pennsylvania's certification process ensures that the most qualified persons are:

- Miner
 - Bituminous/Anthracite
- Machine Runner
 - Bituminous
 - Shot firer
 - Bituminous
 - Blaster
 - Anthracite /Industrial Mineral
- Mine Examiner
 - Bituminous/Anthracite
- Assistant Mine Foreman
 - Bituminous/Anthracite
- Mine Electrician
 - Bituminous
- Mine Foreman
 - Bituminous/Anthracite/Industrial Minerals

Training

The Bureau of Mine Safety provides the industry with top quality training programs

Types of training provided in 2012:

Bureau of Mine Safety

- Mine Rescue
- Shot-firer/Blasting
- First aid
- Mine Officials Competency Courses
- Annual Refresher/New Miner
- SCSR
- Stay Out-Stay Alive Out Reach

Indiana University of Pennsylvania

- EMT

Schuylkill Technology Center

- Annual Refresher/New Miner

Pennsylvania State University

- Annual Refresher/New Miner/Train-The-Trainer
- Safety Workshops

Accident Investigation

Investigate all reportable accidents to identify the cause and develop processes to prevent future accidents

- (1) A death of an individual at a mine.
- (2) An injury to an individual at a mine, which has a reasonable potential to cause death.
- (3) An entrapment of an individual at a mine which has a reasonable potential to cause death or serious injury.
- (4) An unplanned inundation of a mine by a liquid or gas.
- (5) An unplanned ignition or explosion of gas or dust.
- (6) An unplanned mine fire not extinguished within ten minutes of discovery.
- (7) An unplanned ignition or explosion of a blasting agent or an explosive.
- (8) An unplanned roof fall at or above the anchorage zone in active workings where roof bolts are in use.
- (9) An unplanned roof or rib fall in active workings that impairs ventilation or impedes passage.
- (10) A coal or rock outburst that causes withdrawal of miners or which disrupts regular mining activity for more than one hour.
- (11) An unstable condition at an impoundment or refuse pile which does any of the following:
 - (i) Requires emergency action in order to prevent failure.
 - (ii) Causes individuals to evacuate an area.
- (12) Failure of an impoundment or refuse pile.
- (13) Damage to hoisting equipment in a shaft or slope which endangers an individual or which interferes with use of the equipment for more than 30 minutes.
- (14) An event at a mine which causes death or bodily injury to an individual not at the mine at the time the event occurs.

Emergency Response/Mine Rescue

The Bureau of Mine Safety provides for the rapid deployment of mine rescue equipment and personnel in the event of mine-related emergencies at 4 mine rescue stations throughout the Commonwealth of Pennsylvania –Two State-trained teams work out of each station

Ebensburg



Tremont



Uniontown



Marion Center



Also, 10 Company mine rescue teams:

Consol Energy:

- Bailey -2 teams
- Enlow Fork -2 teams

Alpha Natural Resources:

- Cumberland- 2 teams
- Emerald – 2 teams

Rosebud Mining:

- North/South - 2 teams



Special Medical Response Team

“Good Medicine In Bad Places”

Founded 1982

Incorporated as nonprofit volunteer medical rescue resource in 1984

Under contract with DEP/BMS



Miner/Responder Surveillance and Monitoring

• *Specialized Initial Medical Treatment*

- Crush Injury Syndrome.
- Dust Impaction.
- Hypothermia.
- Pain Management.
- Advanced Respiratory care.
- Trauma & medical emergencies.

• Sick Call

- Generalized medical symptoms
- Miner and support personnel “usual bumps, bruises, and sprains”

• Body Recovery

• Critical Incident Debriefing



Stay Out-Stay Alive

**Mines
and Quarries
are not Playgrounds**

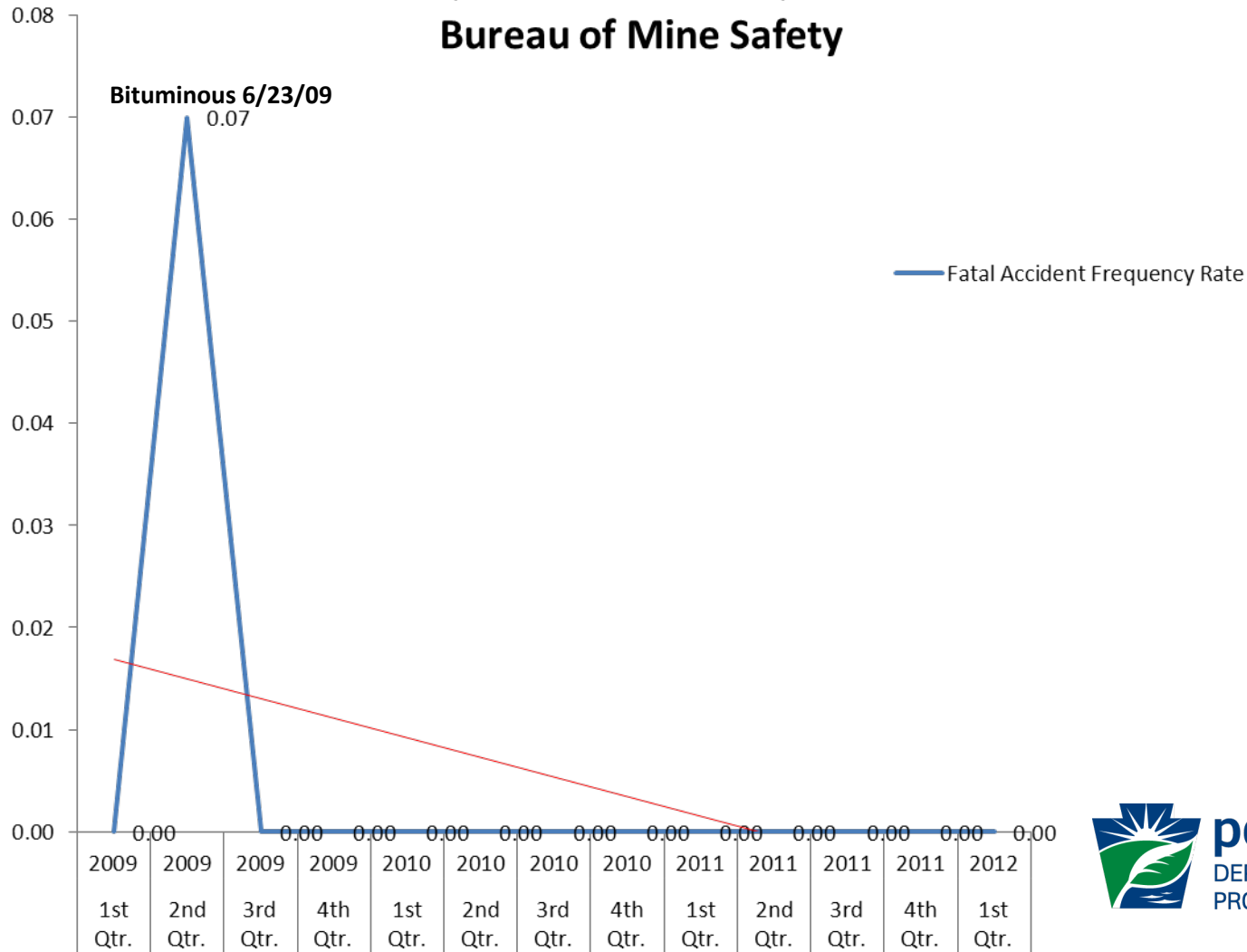
**STAY OUT!
STAY ALIVE!**

Commonwealth of Pennsylvania
Thomas Corbett
Governor

- The Pennsylvania Department of Environmental Protection (DEP) has partnered with the U.S. Mine Safety and Health Administration, other state agencies and the active mining industry to promote the “Stay Out – Stay Alive” campaign.
- The goal of this nationwide effort is to educate the public, particularly young people, about the dangers of abandoned and active mines.
- DEP is visiting schools and community groups to discuss the dangers of these sites.

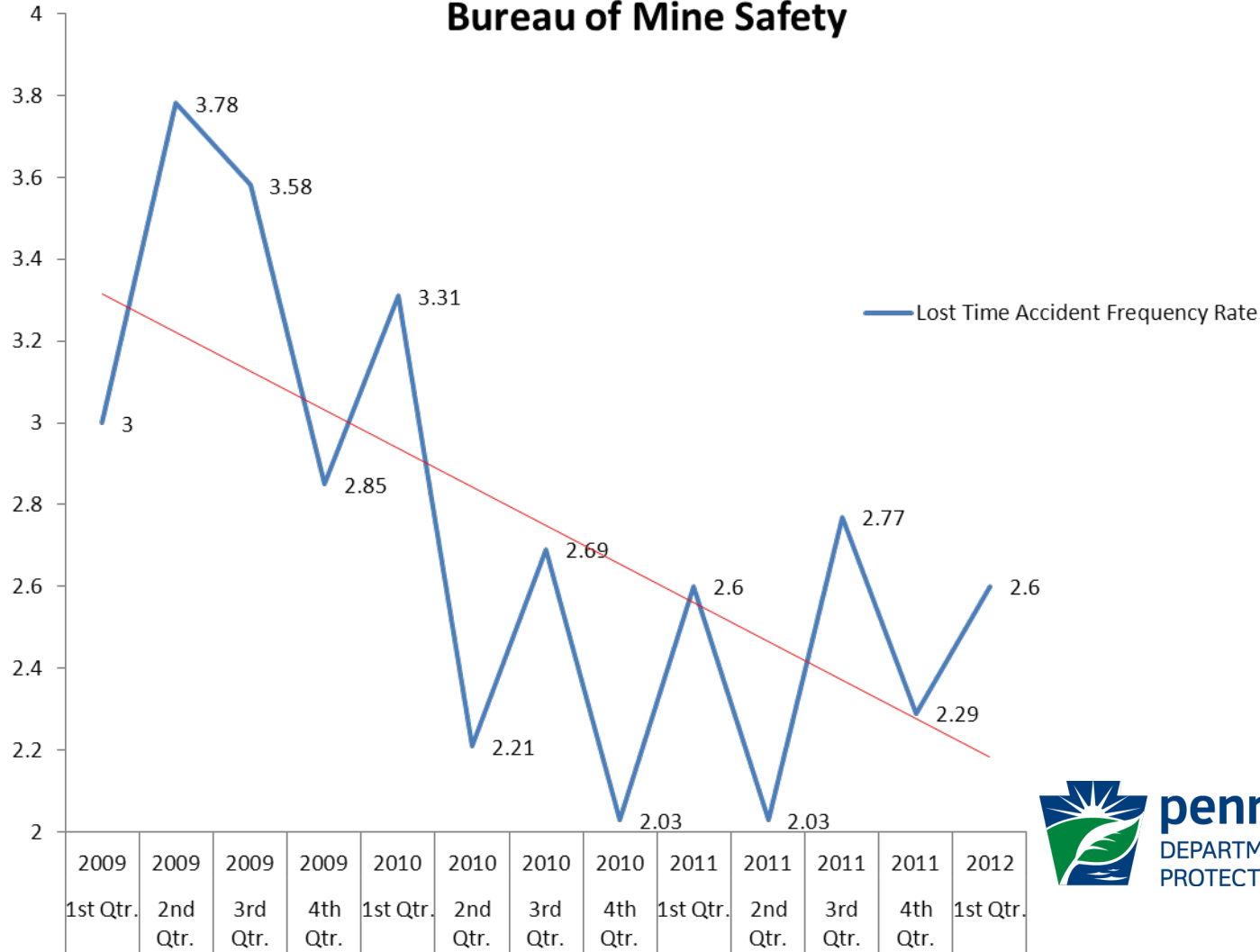
Fatality Charts

**Fatal Accident Frequency Rate
1st Qtr. 2009 thru 1st Qtr. 2012
Bureau of Mine Safety**



Accident Frequency

Lost Time Accident Frequency Rate 1st Qtr. 2009 thru 1st Qtr. 2012 Bureau of Mine Safety



Summary

- Pennsylvania's underground mining operations have demonstrated that “zero fatalities” is an attainable goal. It has been three (3) years since the last underground mine fatality in Pennsylvania. This did not happen by accident. It is the result of a management culture that demands safe work practices at all times. Safety is the number one priority, trumping all other facets of the mining process.
- Whether you call it “Absolute Zero, Running Right, Target Zero, Continuous Safety Improvement or CORESafety”, it is all about sending every employee home safe and healthy at the end of each shift.
- It requires a culture where every employee, from the CEO to the laborer, is responsible and accountable for safety.
- The Pennsylvania Bureau of Mine Safety works with the mining industry by conducting safety inspections, approving mine plans and mining equipment, certifying miners and mine officials, training miners, investigating accidents and providing emergency response capabilities for the sole purpose of eliminating fatalities and serious accidents.



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Mine Safety

contact:

Joseph Sbaffoni

jsbaffoni@pa.gov

724/439-7469