

Mine Foreman Training General Mining – Unit 9

**Power Point Program and Training
Developed by Wayne Collett
Office of Mine Safety & Licensing
2006**

In addition to complying with state and federal regulations, a mine foreman must follow and comply with all plans that have been approved by OMSL and MSHA for use at his place of employment. These include roof control, fan stoppage, fire-fighting and evacuation, smoking article search, accident reporting and training plans.



In many instances, inexperienced foremen are called upon to act as section foremen due to the absence of the regular foremen or for some other reason. Sometimes, the inexperienced foremen haven't received any more training on mining plans than that administered to the workers.



“When you are placed in charge of a mining operation and other miners, it is necessary for you to understand the plans completely and the consequences of failing to follow the plans.”



The purpose of this training is to provide you, the foreman candidate, with a basic knowledge and understanding of mining plans and your responsibility regarding the plans while performing as a certified foreman.



After becoming certified as a mine foreman and taking employment to act as a foreman, you should insist on being provided with the necessary training on all plans approved for the mine where you are employed.



This is very important, because once you begin your duties as a certified mine foreman, even if on a temporary basis, you are still responsible for complying with the plans and will be held accountable by the Office of Mine Safety and Licensing (OMSL) and the Mine Safety and Health Administration (MSHA).



Mining plans are approved based on the conditions and equipment used at a particular mine. Consequently, approved mining plan criteria differs from mine to mine and you must be adequately trained on those plans at your place of employment.



All mine management personnel must share in the responsibility for complying with approved plans. However, the section foreman bears ultimate responsibility, and has in the past, received disciplinary action for failing to carry out his duties in regards to following approved mining plans.



Failing to follow approved plans during mining operations have often resulted in serious accidents, injuries and fatalities. When inspections and investigations reveal that a foreman knowingly violates or allows miners under his authority to violate or disregard an approved plan, the foreman will be subject to disciplinary action. The severity of the disciplinary action will be determined by the Mine Safety Review Commission.



Roof Control Plans



The purpose of a roof control plan is to prevent accidents and fatalities caused by the fall of roof and ribs. The guidelines and requirements of roof control plans are outlined in state regulations KRS 352.201 and Kentucky Administrative Regulations 805 KAR 5:030 – 805 KAR 5:070. The federal guidelines are under 75.200.



It is the responsibility of the licensee, to develop a roof control plan for their coal mines on a mine-by-mine basis. After a roof control plan has been submitted by the licensee (coal company) and approved by OMSL and MSHA, it becomes the “law” and must be followed by the mine for which it was approved.



A proposed roof control plan cannot be implemented (put into practice) before it has been approved. Any revision (s) must also be submitted and approved before the revision (s) can be implemented. {805 KAR 5:070 Section 15 (5) and 75.220 (c)}



An approved roof control plan means that the criteria (equipment, materials, and procedures) stated in the plan is for the effective control of the roof, face, and ribs. However, if conditions warrant, additional measures above and beyond the approved plan must be taken by the licensee (company) to insure adequate support of the roof, face, and ribs.



After a roof control plan has been approved for use at the mine, all affected employees at the mine must be instructed in the provisions of the plan and receive additional instructions when the plan is revised.



Foremen are encouraged to keep records of safety and instructional meetings regarding all plans, the date and time of the meetings, names of those attending the meetings or training sessions, and the subjects discussed.



The purpose of this training is to familiarize you with the basic requirements of roof control plans and all other plans that are required for coal companies to operate and produce coal.



If you are employed by a coal company to act as a certified mine foreman, you become responsible, along with other company officials for complying with the plans. However, you take on the added responsibility of making sure that the employees under your supervision also comply with the plans.



This should cause you to insist on receiving adequate and necessary training on the roof control plan and all other approved plans that you will be responsible for complying with at the mine where you will be employed.



We'll review some basic information, procedures, and safety measures that are required in approved roof control plans. Again, we emphasize that the information that follows does not include all the information and procedures required in approved roof control plans. *Each mine has its own approved plan and procedures to follow.*



Let's look at some pages of a roof control plan, from a fictitious mine, containing information submitted for approval.



MECHANICAL ROOF BOLTS

MINIMUM LENGTH: 36" DIAMETER: 3/4"
TYPE STEEL: GRADE 55 TYPE OF THREAD
LENGTH OF THREAD: TYPE OF HEAD: SQUARE
DIMENSIONS OF BOLT HEAD: NUT: FLANGE:

ANCHORAGE UNIT

TYPE: EXPANSION SHELL SIZE OF FINISHED HOLE: 1-3/8"
METHOD OF DRILLING: ROOF BOLTER DUST CONTROL: VACUUM
INSTALLED TORQUE: 120 to 160 ft-lbs with washer, 150 to 200 ft-lbs without

WASHERS

TYPE STEEL: GRADE 55 SIZE:
SHAPE: ROUND HOLE SIZE:

This page shows the minimum length and type of mechanical roof bolts to be used, the anchorage unit, and the washers to be used. The note at the bottom states how the roof bolts will be stored to minimize rusting and damage.

NOTE: ALL ROOF BOLT MATERIALS WILL BE STORED AND HANDLED IN SUCH A MANNER THAT WILL MINIMIZE RUSTING AND/OR DAMAGING.



TENSION REBAR

MANUFACTURER: EXCEL MINING SYSTEMS, INC., OR JENNMAR CORPORATION

MINIMUM LENGTH: 42" (36" in Massive Sandstone) DIAMETER: 3/4", and 7/8"

TYPE OF STEEL: 40 (3/4" - Grade 60) TYPE OF HEAD: _____

INSTALLED TORQUE: 3/4" (200 - 300 ft-lbs), 7/8" (250 - 350 ft-lbs)

POINT ANCHOR OR COMBINATION BOLTS

MANUFACTURER: EXCEL MINING SYSTEMS, INC., OR JENNMAR CORPORATION

MINIMUM LENGTH: 42" DIAMETER: 3/4", and 7/8"

TYPE OF STEEL: Grade 75 TYPE OF HEAD: _____

INSTALLED TORQUE: 3/4" (200 - 300 ft-lbs), 7/8" (250 - 350 ft-lbs)

RESIN GROUTED RODS

MINIMUM LENGTH: 42" (30" IN MASSIVE SANDSTONE) DIAMETER: 3/4", 7/8"

TYPE OF STEEL: GRADE 40 (3/4" GRADE 60) TYPE OF HEAD: SQUARE

BEARING PLATES

(NOTE: ALL PLATES SHALL MEET ASTM 423-82 STANDARDS)

MANUFACTURER: EXCEL MINING SYSTEM, INC., OR JENNMAR CORPORATION

DIMENSIONS 6" X 6" (MINIMUM) CENTER HOLE SIZE 1"

SHAPE: SQUARE

This page and several others lists the types of roof bolts, resin, and other roof bolt support materials that can be used in the roof control plan.



A DESCRIPTION OF THE METHOD FOR PROTECTING PERSONS WHEN MINING APPROACHES WITHIN 150 FEET OF THE OUTCROP:

WHEN MINING APPROACHES WITHIN 150 FEET OF AN OUTCROP IN THE AREAS WHERE SUBNORMAL ROOF CONDITIONS ARE ENCOUNTERED, SUCH AS HILL SEAMS, CRACKS, POTS, SLIPS OR KETTLE BOTTOMS, THE LICENSEE WILL PROVIDE ADDITIONAL SUPPORT. FREQUENT ROOF EXAMINATIONS WILL BE MADE AND EMPLOYEES WILL BE INSTRUCTED THAT MINING IS BEING CONDUCTED IN AN AREA WITHIN 150 FEET OF THE OUTCROP.

This page describes what must be done when mining approaches within 150 feet of the outcrop or when abnormal conditions are encountered, the types of face and section equipment in use, and the centers and widths of crosscuts, entries and rooms.

FACE EQUIPMENT AND SECTION HAULAGE EQUIPMENT:

1. JOY CONTINUOUS MINER
2. STAMLER CONTINUOUS HAULAGE SYSTEM
3. SIMMONS-RAND 820 COAL HAULER
4. FLETCHER DD0-13 ROOF BOLTER (DUAL HEAD)
5. FLETCHER RRII ROOF BOLTER (DUAL HEAD)
6. FLETCHER LTDO-13 ROOF BOLTER (SINGLE HEAD)
7. FLETCHER HDDR-13 ROOF BOLTER (DUAL HEAD) WALK-THRU
8. STAMLER FEEDER BREAKERS
9. EIMCO 580 SCOOP
10. JOY 10SC SHUTTLE CAR
11. FLETCHER MOBILE ROOF SUPPORTS

SEQUENCE OF MINING AND INSTALLATION OF SUPPORTS INCLUDING TEMPORARY SUPPORTS:

PLAN SKETCH SHOWING SEQUENCE OF MINING INCLUDING PILLAR MINING, WHERE APPLICABLE, SEQUENCE OF INSTALLATION AND SPACING OF SUPPORTS INCLUDING TEMPORARY SUPPORTS AND MAXIMUM WIDTH OF ENTRIES, ROOMS, INTERSECTIONS, CROSSCUTS PILLAR LIFTS AND CUT DEPTHS ARE ATTACHED.

ENTRY WIDTH	<u>20'</u>
ENTRY CENTERS	<u>70' (min)</u>
CROSSCUT WIDTHS	<u>20'</u>
CROSSCUT CENTERS	<u>70' (min) 180' (max) with approval</u>
ROOM WIDTH	<u>20'</u>
ROOM CENTERS	<u>70' (min)</u>
ROOM CROSSCUT WIDTH	<u>20'</u>
ROOM CROSSCUT CENTERS	<u>70' (min)</u>
PILLAR SPLIT WIDTH	<u>14'</u>



ALL PORTALS WILL BE PROVIDED WITH SUBSTANTIALLY CONSTRUCTED CANOPIES (APRONS). SEE SAFETY PRECAUTIONS.

THIS IS THE MINIMUM ROOF CONTROL PLAN AND WAS FORMULATED FOR NORMAL ROOF CONDITIONS WHILE USING THE MINING SYSTEM(S) DESCRIBED. IN AREAS WHERE SUBNORMAL ROOF CONDITIONS ARE ENCOUNTERED, INDICATED, OR ANTICIPATED, THE LICENSEE WILL PROVIDE ADDITIONAL SUPPORT. IF CHANGES ARE TO BE MADE IN THE MINING SYSTEM THAT NECESSITATES ANY CHANGE IN THE ROOF CONTROL PLAN, THE PLAN WILL BE REVISED AND APPROVED PRIOR TO IMPLEMENTING THE NEW MINING SYSTEM.

QUALIFIED SUPERVISORS WILL TRAIN ALL PERSONNEL REQUIRED TO INSTALL ROOF SUPPORTS BEFORE BEING ASSIGNED TO PERFORM SUCH WORK. THIS TRAINING WILL INSURE THAT SUCH PERSONS ARE FAMILIAR WITH THE FUNCTIONS OF THE SUPPORT BEING USED, PROPER INSTALLATION, PROCEDURES AND THE APPROVED ROOF CONTROL PLAN. SUPERVISORS IN CHARGE AND MINERS WHO INSTALL SUPPORT WILL BE INFORMED OF APPROVED ROOF CONTROL PLAN AND ANY CHANGES IN PREVIOUSLY APPROVED ROOF CONTROL PLAN NO LATER THAN THEIR FIRST WORKING SHIFT FOLLOWING RECEIPT OF THE APPROVED PLAN. NEW MINERS WILL HAVE THE HAZARDS OF MINE ROOF AND RIBS AND THE CONTENT OF THIS PLAN EXPLAINED TO THEM BEFORE THEY START TO WORK.

SAFETY PRECAUTIONS

1. ALL UNSTABLE TREES AND LOOSE HAZARDOUS MATERIALS WILL BE REMOVED FROM THE HIGHWALL ABOVE INTENDED MINE OPENINGS BEFORE ANY WORK IS PERFORMED. A SUBSTANTIALLY CONSTRUCTED CANOPY WILL BE PROVIDED AT ALL INTENDED DRIFT OR SLOPE OPENINGS BEFORE PENETRATING THE COAL SEAM FROM THE SURFACE. WHEN MINING FROM A PLACE UNDERGROUND TO A SURFACE LOCATION, A SUBSTANTIALLY CONSTRUCTED CANOPY WILL BE PROVIDED PRIOR TO WORKING OR TRAVELING THROUGH SUCH OPENINGS. THE CANOPY WILL EXTEND FROM THE HIGHWALL FOR A DISTANCE WHICH WILL PROVIDE FOR ADEQUATE PROTECTION FROM FALLING HIGHWALL MATERIAL. THE TOP OF THE CANOPY, IF CONSTRUCTED OF WOOD, WILL BE COVERED WITH SUFFICIENT MATERIAL TO CUSHION AND/OR PREVENT SUDDEN COLLAPSE OR DISLODGMET OF THE CANOPY IN THE EVENT OF HIGHWALL SLOUGHING.
2. TEST HOLES WILL BE DRILLED IN THE MINE ROOF IN THE INTERSECTION AT THE OUTBY END OF EACH PILLAR LINE TO BE MINED. AT LEAST THREE (3) TEST HOLES WILL BE DRILLED: ONE (1) IN THE CENTER ENTRY INTERSECTION AND ONE (1) IN AN ADJACENT ENTRY INTERSECTION TO THE LEFT AND THE RIGHT OF THE CENTER ENTRY.

This page states that all portals will be provided with substantially constructed canopies. It also spells out that this is a minimum roof control plan for normal roof conditions and that subnormal roof conditions will require additional support. It also states that all personnel required to install roof support will be trained by qualified supervisors before performing such work and will be retrained on any changes to the plan no later than the first working shift following receipt of approved changes. Several “safety precautions” are outlined on this and the following page.



Let's review some of the “Safety Precautions” that are stated in roof control plans.



Safety Precautions

- **All loose and hazardous materials must be removed from the highwall above intended mine openings before any work is performed.**
- **A substantially built canopy must be constructed at the intended drift or slope opening.**
- **Test holes must be drilled in the mine roof in the intersection at the outby end of each pillar to be mined.**



Safety Precautions

- **Roof tests must be made when entering a previously mined area or an abandoned mine. When inadequate roof support is encountered, roof supports will be installed in all areas of the mine where persons are required to work or travel.**
- **The OMSL must be notified immediately of any failure of the approved roof control plan.**
- **All hill seams, cracks, and kettle bottoms will be sufficiently supported by crossbars, cribs, and steel straps if deemed sufficient by the inspector or analyst.**



Safety Precautions

- **During the mining cycle: cutting, loading, or clean up with a scoop, the controls of the machine, if operated from the deck of the machine or compartment, will not proceed inby the last row of permanent roof supports.**
- **If the equipment is remote controlled, then the operator and/or his helper shall position themselves in a safe place at all times. At no time can any part of their body be exposed to unsupported roof during the mining cycle.**



Safety Precautions

- **All crossbars or beams must be installed with some means of support that will prevent the support from falling in the event the legs are dislodged. Roofbolts will be installed in the bars where practical.**
- **Openings that create an intersection must be permanently supported prior to mining in by the intersection.**



Safety Precautions

- **Persons can not be allowed to congregate in the area surrounding the continuous miner when coal is being cut, mined or loaded.**
- **When bolting a “fall area” and circumstances prevent the use of an ATRS, a plan must be established and posted showing the cleanup and support procedures to be followed.**



Safety Precautions for Remote Controlled Continuous Miners

- The length of miner runs will vary and cannot exceed 20 feet unless: (1) the reset for the circuit breaker on the continuous miner will be operated from the remote control station or (2) adequate temporary supports will be provided when any work such as resetting the breaker on the miner is to be done inby permanent supports.**



Safety Precautions for Remote Controlled Continuous Miners

- When the continuous miner becomes inoperative, and malfunction prevents moving the machine to a permanently supported area: (1) permanent supports will be installed where practical; (2) when not practical, temporary supports will be installed on not more than 2 ft. by 4 ft. centers in the entire area where repair work is being done on the miner which is in by permanent supports.



Safety Precautions for Remote Controlled Continuous Miners

- **When adverse roof conditions are encountered; the depth of the cuts will be limited to a distance compatible with the prevailing conditions;**



Roof Fall Reporting

- Each unplanned roof fall, rib fall, and coal or rock burst, that occurs inby the dumping point on the working section will be reported to the OMSL (district where mine is located) within twenty-four (24) hours or the next business day.
- Each unplanned roof fall, rib fall, and coal or rock burst, that occurs outby the dumping point in active working areas will be reported to the OMSL (district where mine is located) within 10 days.
- The state regulation for reporting falls is KAR 5:070 Section 18 (2).
- The federal regulation for reporting falls is 50.20-5, Code 08.



Safety Precautions for Retreat Mining (Pillaring)

- 1. Places will have been supported in accordance with the Approved Roof Control Plan during development.**
- 2. Persons will not be allowed to congregate in the area surrounding the continuous miner when coal is being cut, mined, or loaded.**
 - a. All section personnel, other than the miner operator, will position themselves in a safe location out-by the continuous miner while coal is being cut, mined, or loaded.**



Safety Precautions for Retreat Mining (Pillaring)

b. Should management deem it necessary to set additional supports or do repair work, mining will cease until the adjustments are made. Only those persons management determines are absolutely necessary to make the adjustment will be permitted in-by the operator's compartment of the continuous miner.



Safety Precautions for Retreat Mining (Pillaring)

- 3. Test holes will be drilled in the mine roof, in the intersection, at the out-by end of each pillar to be mined. Open test holes drilled on advance and meeting these requirements will be adequate for use when starting any pillaring.**
- 4. Test holes will be drilled to a minimum of six feet (72 inches) in depth or 24 inches deeper than the roof bolts being used.**



Safety Precautions for Retreat Mining (Pillaring)

- 5. A roof evaluation will be made when entering a previously mined area for the purpose of pillar recovery. When inadequate roof support is encountered, the necessary corrective actions will be taken.**
- 6. Bleeder entry support:**
 - a. Connections to bleeder entries, not restricted with ventilation controls, will be blocked with suitable barricades.**



Safety Precautions for Retreat Mining (Pillaring)

b. If adverse roof conditions are encountered in bleeder entries, cribs and/or timbers will be set, as needed, to provide safe travel through such entries.

c. The bleeder system will be established and maintained as per the Approved Ventilation Plan.



Safety Precautions for Retreat Mining (Pillaring)

- 7. During retreat mining, should adverse conditions be encountered that dictates the need to eliminate or reposition a lift or lifts, the integrity of the intended pillar line and adjacent area (such as bleeder entries) will be maintained. The intent of the elimination or repositioning of a lift or lifts is to permit minor deviations to enhance safety at a specific location. The aforementioned deviations are not intended to circumvent the provisions and/or integrity of the overall pillar recovery plan.**



Safety Precautions for Retreat Mining (Pillaring)

- 8. All posts will be installed on not more than four (4) foot centers.**
- 9. The OMSL office in which the mine is located will be notified 24 hours prior to the start of any pillar mining.**
- 10. If questionable roof conditions are encountered, employees will move to a safe location until the area is examined by the foreman.**



Safety Precautions for Mobile Roof Supports (MRS)

- 1. Places will have been supported in accordance with the Approved Roof Control Plan during development.**
- 2. All personnel will be positioned clear of all pinch points when the Mobile Roof Supports (MRS) are being trammed. Under no circumstances will anyone be permitted beside or within the turning radius of the MRS when the units are being moved.**



Safety Precautions for Mobile Roof Supports (MRS)

3. The Mobile Roof Support (MRS) operator will be positioned at a remote location whenever the MRS units are being raised, set, lowered, or cycled. The MRS operator will be positioned so that the gauges can be observed to insure that the MRS units are properly set. Operators will continuously monitor the pressure gauges (someone will be in sight of the gauges at all times while mining).



Safety Precautions for Mobile Roof Supports (MRS)

3. Continued – Pillaring operations will cease when the yielding pressure is reached; (mining will cease in that cut/lift and the MRS will be moved/set-up for the next cut/lift). The MRS have a minimum set pressure of 1000 psi and a maximum yield pressure of 5000 psi.
4. Personnel will not be allowed to congregate in the area when the MRS units are being raised, set, lowered, or cycled.



Safety Precautions for Mobile Roof Supports (MRS)

5. The MRS units will be operated in pairs in the active pillaring area. When moving, each unit will be offset not more than one half unit length from its companion unit.
6. MRS units will be positioned as shown on sketches in the plan. MRS units will be systematically moved as mining progresses. The positions of the MRS units are indicated by numbers that correspond with pillar lifts. Some variation in the location of the MRS units may exist due to roof conditions present during pillar recovery.



Safety Precautions for Mobile Roof Supports (MRS)

7. When pillaring is completed on a block and after the continuous miner has been removed, all persons will be removed from the intersection. The MRS units will be removed by remote control (either radio or umbilical remote). The MRS units will be sequentially moved in a group by alternating moving one MRS unit then another, keeping the units in a group until such time as the MRS units are between solid pillars and out of the pillared area.



Safety Precautions for Mobile Roof Supports (MRS)

8. Manual movements will be for maintenance purposes only and will be performed in areas where permanent roof supports are maintained. Temporary roof supports will be set before loading or unloading the unit manually.
9. Pillaring operations, using the MRS units, will cease in the event the gauges become unreadable.



Safety Precautions for Mobile Roof Supports (MRS)

- 10. All section personnel will be trained in the pillar recovery method utilizing mobile roof supports (MRS).**
- 11. MRS cables will be hung on break-away hangers in-by the last open crosscut.**



Additional Precautions for Extended Cuts

- 1. In the event the dust scrubber becomes inoperative, cuts will be limited to 20 feet deep until the scrubber is returned to operating conditions.**
- 2. When extended cuts are being taken: at least one (1) test hole will be drilled in each active working place during each bolting cycle for each extended cut. The test hole will be at least twenty-four (24) inches longer than the support system being installed.**



Additional Precautions for Extended Cuts

3. When practical, crosscuts will be turned from one direction and completed from the same direction. If it becomes necessary to turn crosscuts left and right from the same entry, then the first extended cut made left or right will be fully supported prior to taking the adjacent cut.
4. In the event adverse and/or subnormal roof conditions such as, but not limited to drawrock, slips, horsebacks, hill seams, and close overlying cracks or rider seams are encountered, mining cuts will be limited to a maximum of 20 feet in depth.



Additional Precautions for Extended Cuts

- 5. When extended cuts are being taken, at least, three (3) rows of roof bolts will be installed in by any side or crosscut for cuts up to 30 feet deep. For cuts greater than 30 feet deep, four (4) rows of roof bolts will be installed prior to starting any side cut or crosscut.**
- 6. There will not be two (2) unsupported cuts at intersections in any entry.**



Additional Precautions for Extended Cuts

7. When mining within 150 feet of the outcrop, mining cuts will be limited to a maximum of 20 feet deep.



Each roof control plan may contain from 20 to 30 sketches for dual and single head bolters showing: roof bolt installation on various lengths of cuts, installation of temporary supports, and other pertinent information.



We will review some of the sketches to show you how they are used to provide instructions and procedures for complying with a roof control plan.

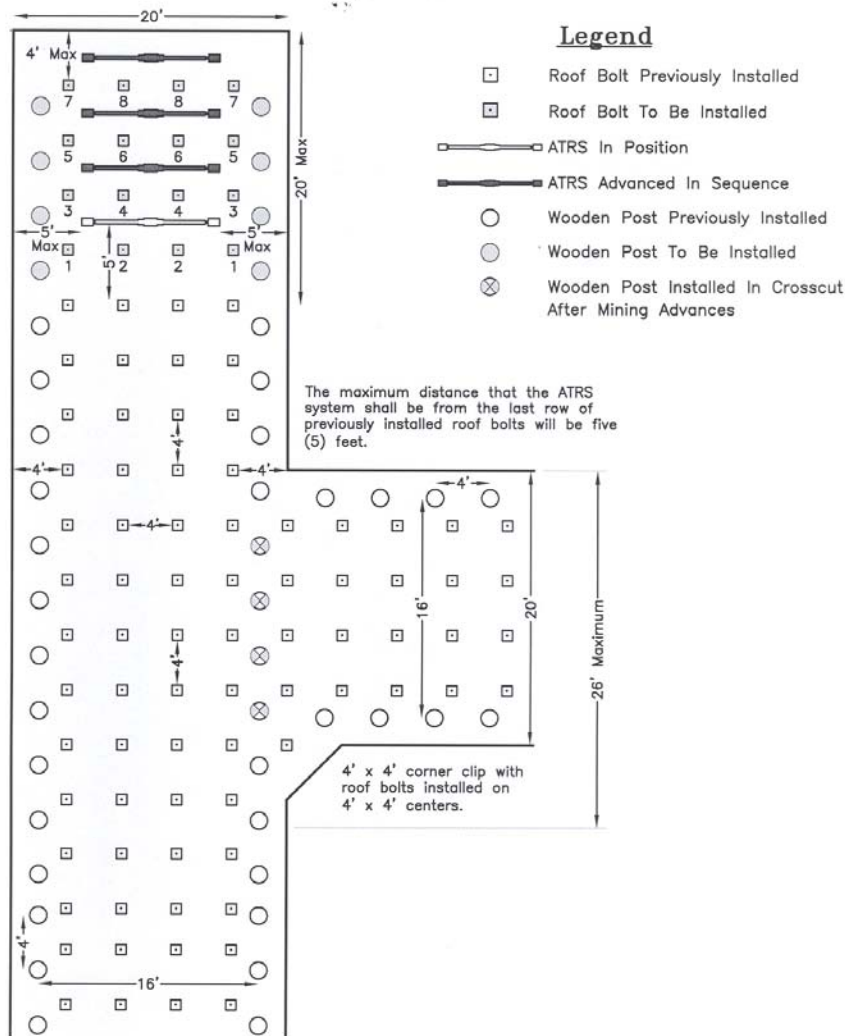


The roof control plan, once approved, becomes mandatory for the company and/or their representatives to follow. Remember, as a foreman, you are the company's representative.



It is your responsibility to know and understand the mining plans that have been approved and in use at the mine where you will serve as a certified foreman.





To understand the sketches in the plan, you should first look at the legend, which shows the symbols for roof bolts, timbers/posts, ATRS, and sequence numbers. The information in the lower right corner identifies the company, mine name or number, MSHA ID #, state file #, operation sequence, scale, date, and name of the person making the sketch.

This sketch is to be followed during the initial development and when mining advances within 150 feet of the outcrop.

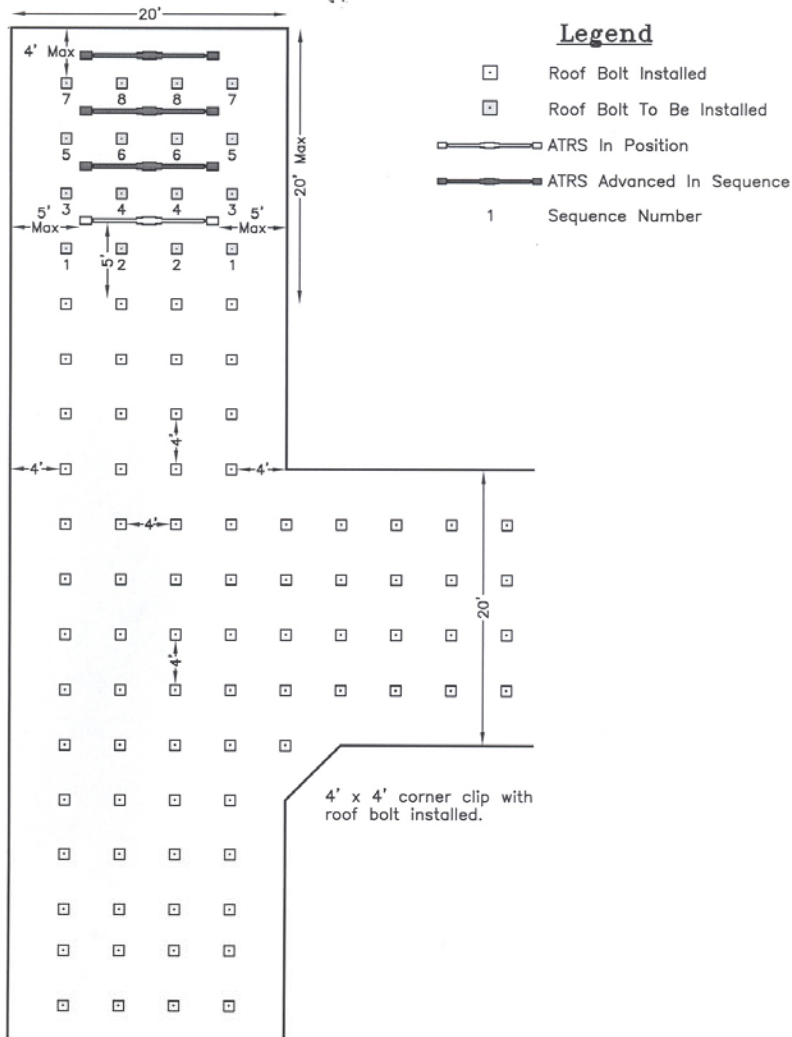
Notes:

This sketch is to be used for INITIAL DEVELOPMENT and when mining advances within 150 feet of outcrop only. If entry widths are reduced to sixteen (16) feet or less, wooden posts shown will not be required. An evaluation by KDMM and MSHA representatives will be made prior to any change from the INITIAL DEVELOPMENT SKETCH.

The maximum distance that the ATRS system shall be from the rib will be five (5) feet.

	XYZ COAL COMPANY, INC.	
	Box 1 Anytown, Kentucky 40123	
Possum Branch Mine No. 1		
MSHA ID # 15-00000		State File # 00000
Bolt Installation Sketch for INITIAL DEVELOPMENT Dual Head Roof Bolter		
Scale: 1"=10'	Date: 02/14/05	Page: By: John





This sketch shows the procedure to follow when roof bolts are being installed with a dual head roof bolting machine for a 20 ft. max. depth of cut.

The ATRS cannot be set more than five (5) feet from the last row of permanent supports when beginning roof bolt installation. The ATRS must also be set no more than five (5) feet from each rib.

The sequence of roof bolt installation for the right and left side is numbered. Roof bolts are to be installed on four (4) foot centers and to within four (4) foot of the face.

When circumstances prevent the use of the ATRS system, temporary roof support will be used in lieu of the ATRS system, see sketch.

	XYZ COAL COMPANY, INC.	
	Box 1 Anytown, Kentucky 40123	
Possum Branch Mine No. 1		
MSHA ID # 15-00000 State File # 00000		
Roof Bolt Installation Sequence Dual Head Roof Bolter		
Scale: 1"=10'	Date: 02/14/05	Page:
		By: John

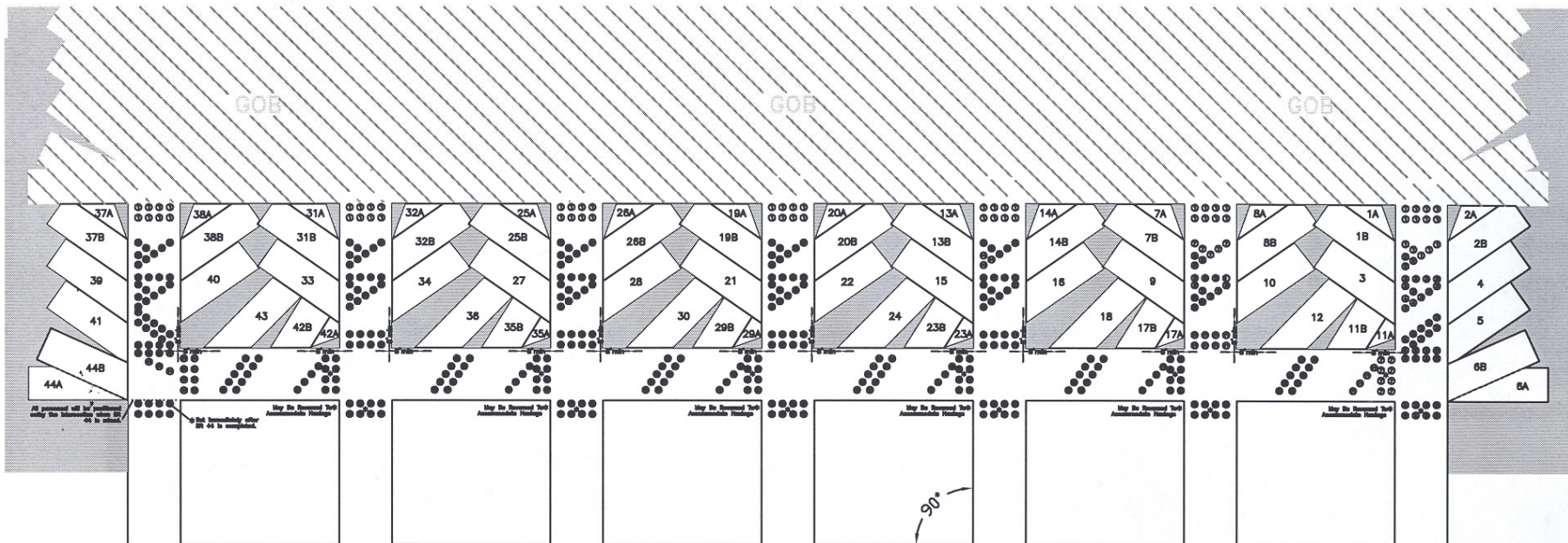


This sketch shows a pillar recovery plan utilizing timbers for a 7- entry car section. Two rows of breaker posts must be set in each entry at the in-by end of the coal blocks in addition to the other breaker posts and turn posts that must be set before the pillar lifts are mined. (continued)

Legend

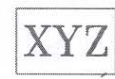
15 Cut sequence

⊙ Breaker posts with sequence numbers (realization of posts correspond to cut sequence)



Notes:

1. Breaker posts and/or turn posts will be systematically installed as mining progresses. The installation sequence of the post are indicated by numbers that correspond with pillar lifts.
2. Breaker posts and/or turn posts will be installed on a maximum of 4' centers.
3. Mirror image of plan is applicable. If mirror image is used, the lifts in each entry will remain as shown; the left side lift(s) will be mined before the adjacent right side lift(s).
4. Cuts/lifts will not exceed 14' in width.
5. The cuts/lifts may or may not cut together.
6. This plan will only be utilized with a remote controlled continuous miner and ram cars and/or uni-haulers.
7. The maximum cut depth shall not exceed 40', with the exception that 45' cuts/lifts will be permitted on the section(s) utilizing the Stamler BH10 coal haulers, per the approved roof control plan.
8. See the additional safety precautions for retreat mining (pillaring).
9. The bleeder system will be established per the approved ventilation plan.



XYZ COAL COMPANY, INC.
 Box 1
 Anytown, Kentucky 40123

Possum Branch Mine No. 1

MSHA ID # 15-00000 State File # 00000

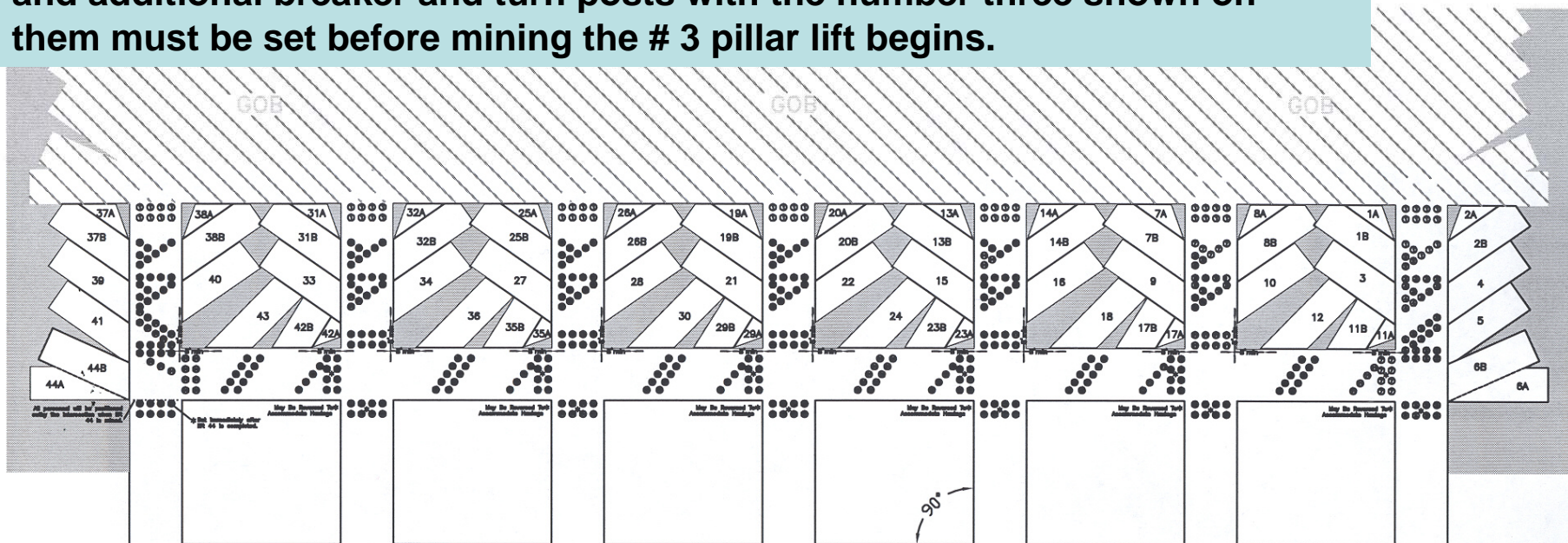
Pillar Recovery Plan Utilizing Timbers
 7-Entry Car Section Panels (right to left sequence)

Breaker posts and turn posts must be set on four (4) foot centers. Breaker posts and turn posts are also numbered and must be set before the corresponding number of the pillar lift is mined. For example, before pillar lift # 3 is mined, all breaker and turn posts set for cuts 1 and 2 will remain and additional breaker and turn posts with the number three shown on them must be set before mining the # 3 pillar lift begins.

Legend

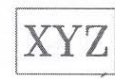
15 Cut sequence

⊖ Breaker posts with sequence numbers (realization of posts correspond to cut sequence)



Notes:

1. Breaker posts and/or turn posts will be systematically installed as mining progresses. The installation sequence of the post are indicated by numbers that correspond with pillar lifts.
2. Breaker posts and/or turn posts will be installed on a maximum of 4' centers.
3. Mirror image of plan is applicable. If mirror image is used, the lifts in each entry will remain as shown; the left side lift(s) will be mined before the adjacent right side lift(s).
4. Cuts/lifts will not exceed 14' in width.
5. The cuts/lifts may or may not cut together.
6. This plan will only be utilized with a remote controlled continuous miner and ram cars and/or uni-haulers.
7. The maximum cut depth shall not exceed 40', with the exception that 45' cuts/lifts will be permitted on the section(s) utilizing the Stamler BH10 coal haulers, per the approved roof control plan.
8. See the additional safety precautions for retreat mining (pillaring).
9. The bleeder system will be established per the approved ventilation plan.



XYZ COAL COMPANY, INC.
 Box 1
 Anytown, Kentucky 40123

Possum Branch Mine No. 1

MSHA ID # 15-00000 State File # 00000

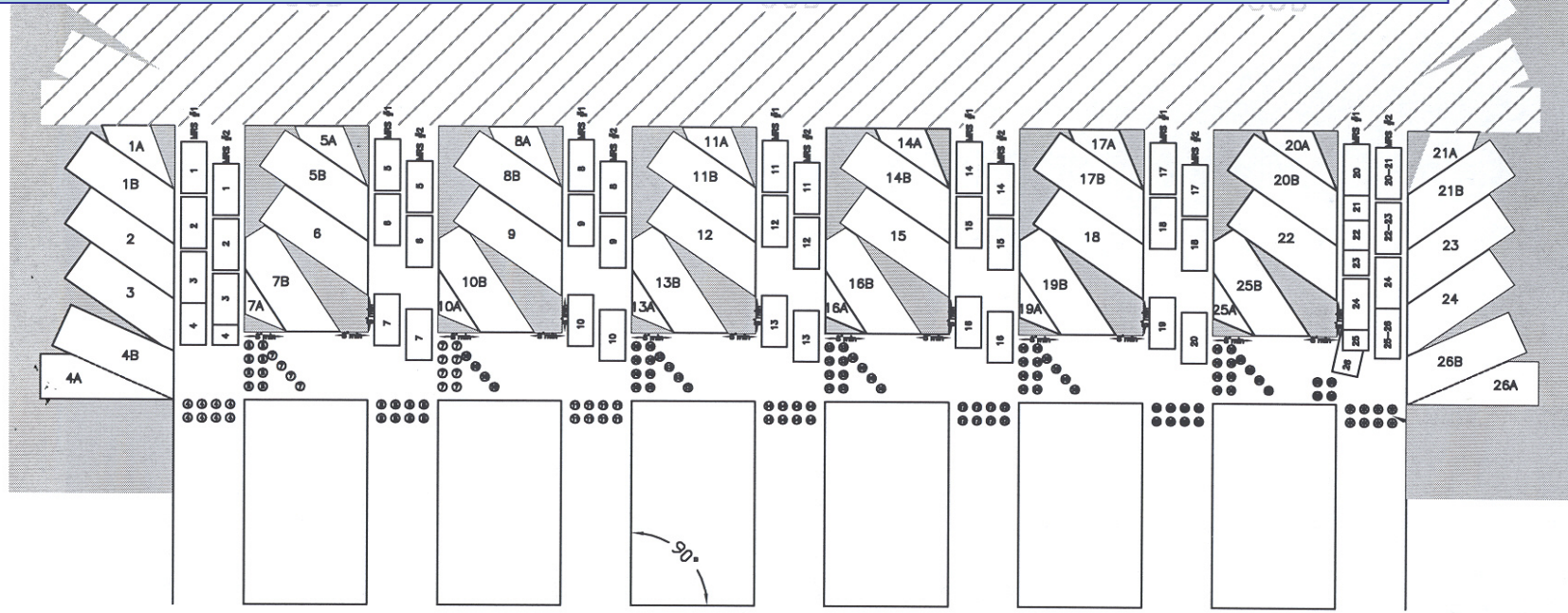
Pillar Recovery Plan Utilizing Timbers

7-Entry Car Section Panels (right to left sequence)

This sketch shows the use of mobile roof supports (MRS) in addition to the use of breaker and turn posts. The MRS units must be moved systematically. The position of the MRS units are indicated with numbers that correspond with the pillar lifts to be mined. (continued on next slide)

Legend

- 15 Cut sequence
- 15 MRS with sequence numbers (MRS position correspond to cut sequence)
- ⊙ Breaker posts with sequence numbers (realization of posts correspond to cut sequence)



Notes:

1. The Mobile Roof Supports will be systematically moved as mining progresses. The positions of the MRS units are indicated by numbers that correspond with pillar lifts.
2. Breaker/turn posts will be set prior to the start of the lifts indicated.
3. Breaker posts will be knocked for Mobile Roof Support positioning.
4. Mirror image of plan is applicable. If mirror image is used, the lifts in each entry will remain as shown; the left side lift(s) will be mined before the adjacent right side lift(s).
5. The 5' minimum dimension for coal to be left in place (shown on the outby corner of each pillar) may be reduced when the first lift is mined in the crosscut.
6. Cuts/lifts will not exceed 14' in width.
7. The cuts/lifts may or may not cut together.
8. This plan will only be utilized with a remote controlled continuous miner and ram cars and/or uni-haulers.
9. The maximum cut depth shall not exceed 40', with the exception that 45' cuts/lifts will be permitted on the section(s) utilizing the Stamler BH10 coal haulers, per the approved roof control plan.
10. See the additional safety precautions for retreat mining (pillaring). Also, see the additional safety precautions for mobile roof supports.
11. The bleeder system will be established per the approved ventilation plan.

XYZ

XYZ COAL COMPANY, INC.
 Box 1
 Anytown, Kentucky 40123

Possum Branch Mine No. 1

MSHA ID # 15-00000 State File # 00000

Pillar Recovery Plan Utilizing Two Mobile Roof Supports
Car Section Panels (left to right sequence)

SCALE: 1"=50'

Date: 02/14/05

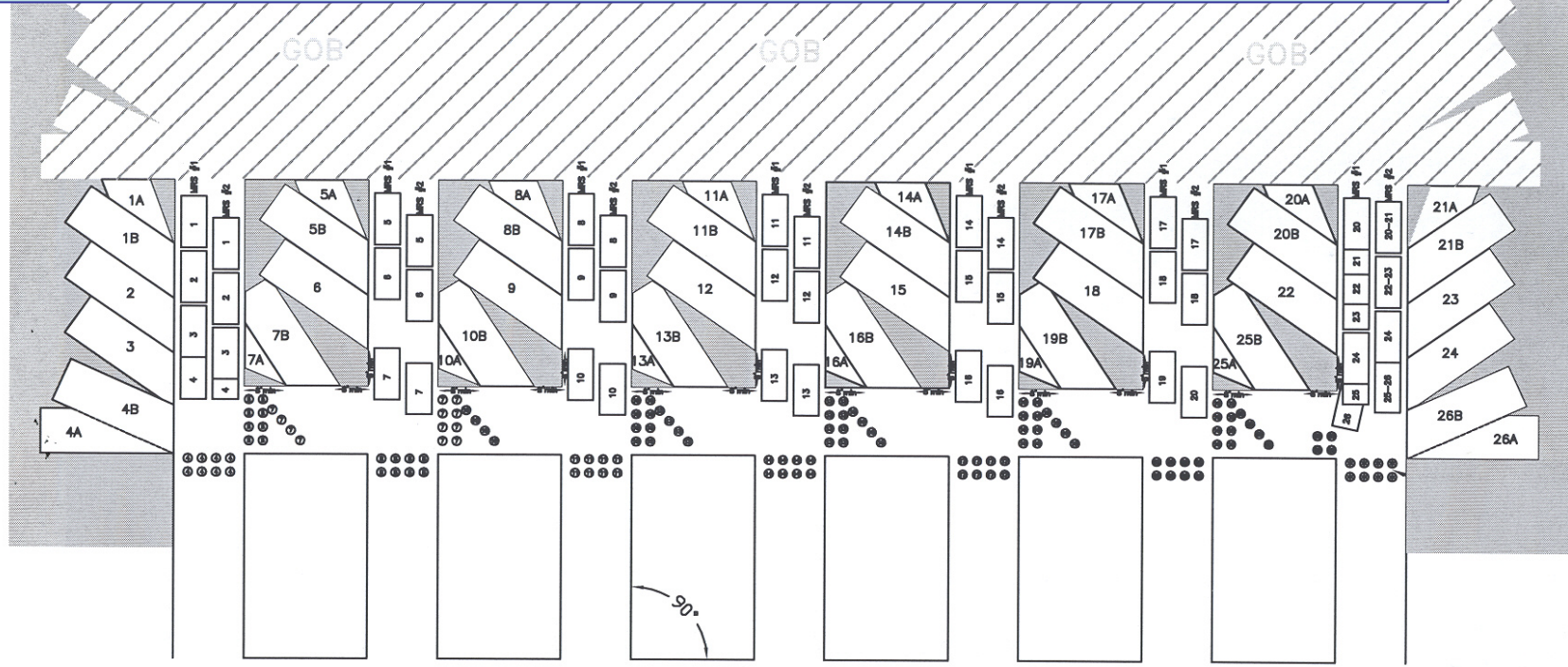
PAGE NO.

By: John

MRS units are designed to improve miners safety by reducing the number of breaker and turn posts to be set. This reduces the miners' exposure to adverse roof conditions which occur during the installation of breaker posts and turn posts.

Legend

- 15 Cut sequence
- 15 MRS with sequence numbers (MRS position correspond to cut sequence)
- ⊙ Breaker posts with sequence numbers (realization of posts correspond to cut sequence)



Notes:

1. The Mobile Roof Supports will be systematically moved as mining progresses. The positions of the MRS units are indicated by numbers that correspond with pillar lifts.
2. Breaker/turn posts will be set prior to the start of the lifts indicated.
3. Breaker posts will be knocked for Mobile Roof Support positioning.
4. Mirror image of plan is applicable. If mirror image is used, the lifts in each entry will remain as shown; the left side lift(s) will be mined before the adjacent right side lift(s).
5. The 5' minimum dimension for coal to be left in place (shown on the outby corner of each pillar) may be reduced when the first lift is mined in the crosscut.
6. Cuts/lifts will not exceed 14' in width.
7. The cuts/lifts may or may not cut together.
8. This plan will only be utilized with a remote controlled continuous miner and ram cars and/or uni-haulers.
9. The maximum cut depth shall not exceed 40', with the exception that 45' cuts/lifts will be permitted on the section(s) utilizing the Stamler BH10 coal haulers, per the approved roof control plan.
10. See the additional safety precautions for retreat mining (pillaring). Also, see the additional safety precautions for mobile roof supports.
11. The bleeder system will be established per the approved ventilation plan.

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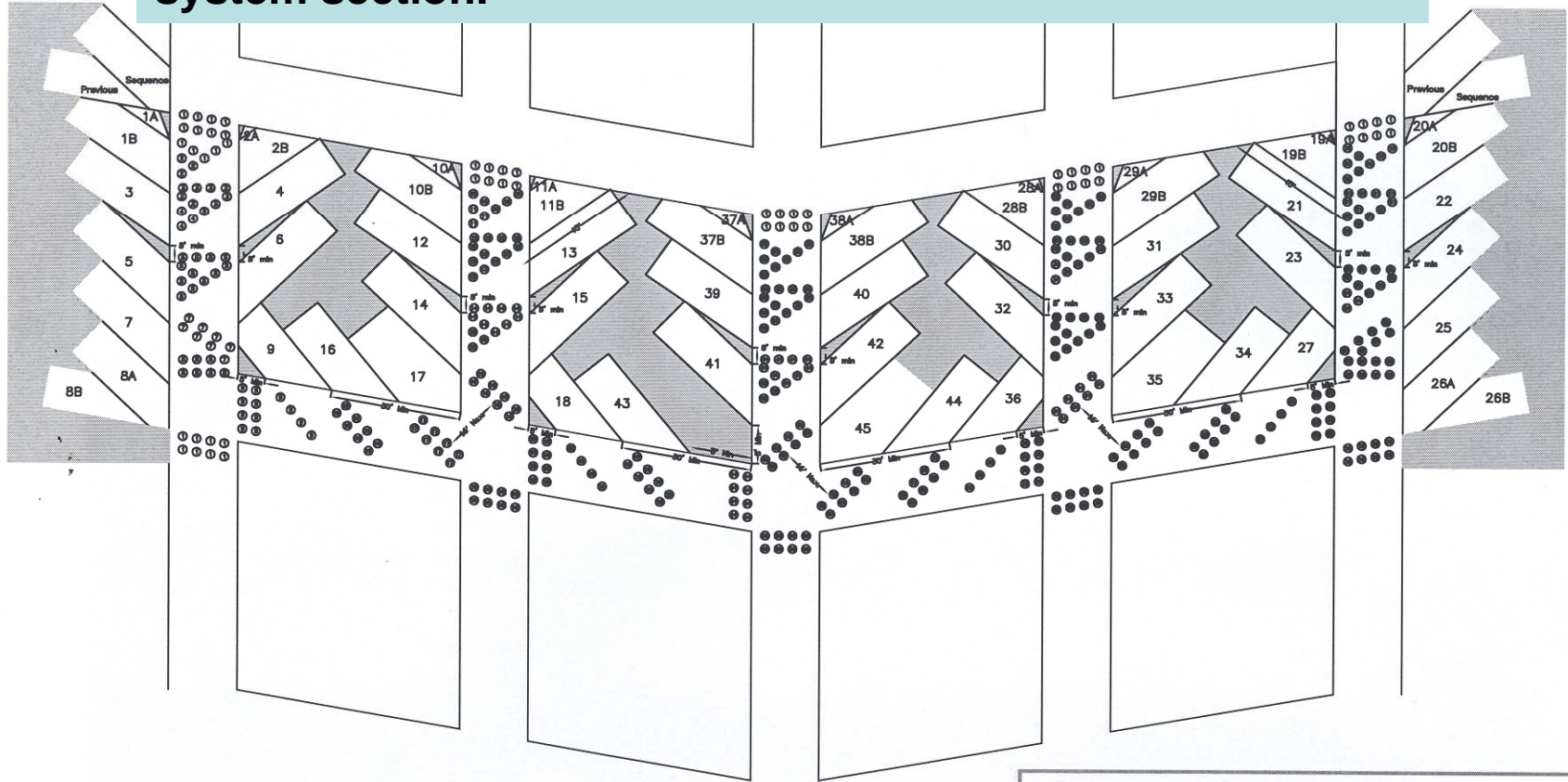
Possum Branch Mine No. 1

MSHA ID # 15-00000 State File # 00000



Pillar Recovery Plan Utilizing Two Mobile Roof Supports
 Car Section Panels (left to right sequence)

Legend
 15 Cut sequence
 ⊙ Breaker posts with sequence numbers (Installation of posts correspond to cut sequence)

This sketch shows the use of timbers for supporting the roof when removing pillars on a continuous haulage system section.



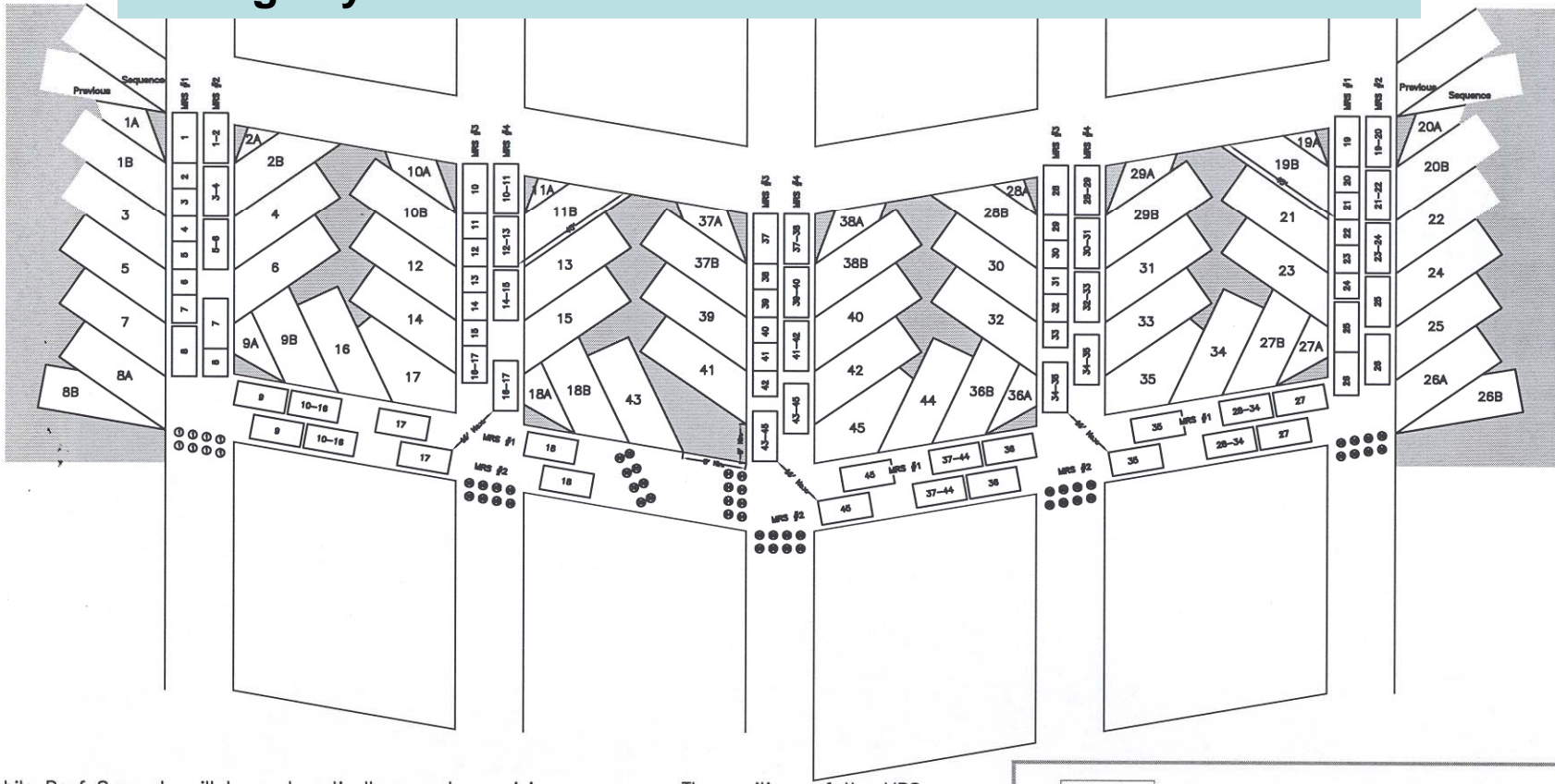
- Notes:
1. Breaker posts and/or turn posts will be systematically installed as mining progresses. The installation sequence of the posts are indicated by numbers that correspond with pillar lifts.
 2. Breaker posts and/or turn posts will be installed on a maximum of 4' centers.
 3. The pillars may be mined starting from either the left side (as shown) or from the right side. Mirror image of plan is applicable. If mirror image is used, the lifts in each entry will remain as shown; the left side lift(s) will be mined before the adjacent right side lift(s).
 4. Cut 45 can be taken from either the left or right side (not both).
 5. Cuts/lifts will not exceed 14 feet in width.
 6. The cuts/lifts may or may not cut together.
 7. The number of cuts/lifts mined in any block may be reduced due to the conditions on the pillar line.
 8. See the additional safety precautions for retreat mining (pillaring).
 9. The bleeder system will be established per the approved ventilation plan.

	XYZ COAL COMPANY, INC. Box 1 Anytown, Kentucky 40123	
	Possum Branch Mine No. 1 MSHA ID # 15-00000 State File # 00000	
Pillar Recovery Plan Plan D - Close Out In The Center Entry Using Timbers (Continuous Haulage Only)		
SCALE: 1"=50'	Date: 02/14/05	PAGE NO.
		By: John 

Legend

- 15 Cut sequence
- 15 MRS with sequence numbers (MRS position correspond to cut sequence)
- ⊙ Breaker posts with sequence numbers (Installation of posts correspond to cut sequence)

This sketch shows the use of MRS units used for supporting the roof in pillar recovery of a continuous haulage system section.



- Notes:**
1. The Mobile Roof Supports will be systematically moved as mining progresses. The positions of the MRS units are indicated by numbers that correspond with pillar lifts.
 2. Breaker posts on a maximum of 4' centers will be systematically installed as mining progresses. The installation sequence of the posts are indicated by numbers that correspond with pillar lifts.
 3. Breaker posts may be knocked for Mobile Roof Support positioning.
 4. The pillars may be mined from either the left side (as shown) or from the right side. Mirror image of plan is applicable. If mirror image is used, the lifts in each entry will remain as shown; the lift side lift(s) will be mined before the adjacent right side lift(s).
 5. Cut 45 can be taken from either the left or right side (not both).
 6. Cuts/lifts will not exceed 14 feet in width. The cuts/lifts may or may not cut together.
 7. The number of cuts/lifts mined in any block may be reduced due to the conditions on the pillar line.
 8. See the additional safety precautions for retreat mining (pillaring). Also, see the additional safety precautions for Mobile Roof Supports.
 9. The bleeder system will be established per the approved ventilation plan.

XYZ

XYZ COAL COMPANY, INC.

Box 1
Anytown, Kentucky 40123

Possum Branch Mine No. 1

MSHA ID # 15-00000 State File # 00000

Pillar Recovery Plan

Close Out In The Center Entry Using Mobile Roof Supports
(Continuous Haulage Only)

SCALE: 1"=50'

Date: 02/14/05

PAGE NO.

By: John

Oral Review on Roof Control Plans



Once you become a certified foreman, can you be held responsible by MSHA and the OMSL for failing to follow the approved roof control plan in effect at your place of employment?



Yes



True or False

If you are serving as a certified foreman on a temporary basis, you cannot be held responsible for failing to follow the plan.



False



True or False

All mines are pretty much the same and therefore roof control plan approval will be the same.



False, equipment, mining conditions, and the amount of cover differ from mine to mine and therefore approval criteria will differ.



True or False

Failing to follow approved plans during mining operations have often resulted in serious accidents, injuries, and fatalities.



True



What is the purpose of a roof control plan?



To prevent accidents and fatalities caused by the fall of roof and ribs.



Who is responsible for developing and submitting a roof control plan for approval?



The licensee (company or mine operator) is responsible for developing and submitting a roof control plan for approval.



True or False

In order to “get on coal” and provide a job for people as soon as possible, a licensee or company can use a roof control plan that has been submitted but not yet approved.



False



Once a roof control plan has been approved for a mine, who must be instructed in the provisions of the plan.



**All employees at the mine
affected by the plan.**



When must employees at the mine receive training on an approved roof control plan?



**No later than the first shift
following receipt of plan
approval.**



When must employees at the mine receive training on an approved roof control plan revision (s)?



**No later than the first shift
following receipt of the
approved plan revision.**



Is it necessary to provide additional training on approved revisions of an approved roof control plan to all employees effected by the plan?



Yes, no later than the first shift following receipt of revisions to the plan.



After you become certified as a foreman and you are employed in that capacity, is it a good idea for you to keep records showing that you have trained your employees in the provisions of the approved roof control plan?



Yes, and that means that you must make sure that employees who were absent during the roof control plan training session, are trained immediately upon their return to work, to remain in compliance with the plan.



Are test holes required to be drilled during advance mining?



Yes



Where are test holes required to be drilled during advance mining and to what depth?



They must be drilled in each intersection to a depth of at least two feet above the anchorage zone.



Safety Precautions



True or False

The “safety precautions” section in a roof control plan does not require all loose and hazardous materials be removed from the highwall above the intended mine openings before any work is performed?



False, all loose and hazardous materials must be removed from the highwall above the intended mine openings before any work is performed?



True or False

The “safety precautions” section in a roof control plan states that a substantially built canopy must be constructed at the intended drift or slope opening.



True



Where and how many test holes are required to be drilled in the mine roof when pillars are being mined?



The “safety precaution” section of the plan states that test holes must be drilled in the mine roof in the intersection at the outby end of each pillar to be mined.



When necessary to enter an abandoned mine or a previously mined area, what must be done?



Roof tests must be conducted.



When inadequate roof support is encountered where persons are required to work or travel, what must be done?



**Adequate roof supports must
be installed.**



Hill seams, cracks, and kettle bottoms may or may not be observed on a section. Are you required to have them supported when encountered or observed ?



Yes



**How shall hill seams, cracks,
and kettle bottoms be
supported?**



They shall be sufficiently supported by crossbars, cribs, and steel straps if deemed sufficient by the inspector or analyst.



For machinery that is not remote controlled and operated from the deck, how far can the machine be advanced and still be in compliance with the roof control plan?



The controls of the machine cannot be advanced in by the last row of permanent roof supports.



If the equipment is remotely controlled, where must the operator and helper position themselves?



The operator and his helper must position themselves in a safe place at all times and at no time can any part of their body be exposed to unsupported roof during the mining cycle.



You have just completed a cut that has created an intersection, what must be done to that place before mining in by the intersection?



Openings that create an intersection must be permanently supported prior to mining inby the intersection.



You are installing beams and crossbars to support the roof, what should be done to prevent the support from falling in the event that the legs are dislodged?



**Roofbolts should be installed
in the bars, where practical.**



True or False

There are no requirements in a roof control plan that prevent people from congregating in the area surrounding the continuous miner when coal is being cut, mined or loaded.



False

You are not allowed to congregate in the area surrounding the continuous miner when coal is being cut, mined or loaded.



When it becomes necessary to install roof bolts in a “fall area” without the use of an ATRS, what must be established and posted?



A plan must be established and posted showing the cleanup and support procedures to be followed.



“Safety Precautions for Remote Controlled Continuous Miners.”



What does the “safety precautions for a remote controlled continuous miner” in an approved roof control plan require in order to exceed the 20 feet length of cut in a mining plan?



**(1) The reset for the circuit breaker on the continuous miner will be operated from the remote controlled station, and
(2) adequate support will be provided when any work such as resetting the breaker on the miner is to be done in by permanent supports.**



When the continuous miner becomes inoperative, and malfunction prevents moving the machine to a permanently supported area, what does the roof control plan require to be done?



Permanent supports must be installed where practical, but if not practical, temporary supports will be installed on not more than two foot centers in the entire area where repair work is being done on the miner which is inby permanent supports.



You are the foreman in charge and you encounter adverse roof conditions while mining with a remote controlled continuous miner. What are some conditions and guidelines that you must now follow?



You must limit the depth of cut to a distance compatible with the prevailing conditions. In other words, you may have to shorten the cut because of the adverse roof conditions.



When adverse roof conditions are encountered, equipment operators cannot proceed in by the second row of permanent roof supports out by the face.



When extended cuts are taken, the methane monitor display or strobe must be visible to miner operators and the fire suppression system must be capable of non-electric activation from under permanently supported roof.



You are the only mine foreman at the mine and an unplanned roof fall has just occurred in by the dumping point on the working section. Are you required to report the roof fall to the OMSL and MSHA and if so, when?



Yes, and the roof fall must be reported within 24 hours or the next business day to the OMSL district office where the mine is located. You must also report the roof fall to MSHA.



Are you required to report an unplanned rib fall, coal or rock burst?



Yes, and the reporting time requirement is the same as for reporting an unplanned roof fall.



What are the requirements for reporting an unplanned roof fall, rib fall, coal or rock burst that occurs outby the dumping point in active working areas?



You have 10 days to report the fall to OMSL district office in which the mine is located.



“Safety Precautions for Retreat Mining (Pillaring).”



During retreat (pillaring) mining, are persons allowed to congregate in the area surrounding the continuous miner when coal is being cut, mined, or loaded?



No, and furthermore, all section personnel, other than the miner operator, will position themselves in a safe location out-by the continuous miner while coal is being cut, mined, or loaded.



If it becomes necessary to set additional supports or do repair work while pillaring, mining must cease until the adjustments are made. Who is allowed in by the operator's compartment of the continuous miner to make those adjustments?



**Only those persons
management determines are
absolutely necessary to make
the adjustments or repairs.**



When retreat mining, what is the minimum depth that test holes can be drilled?



Test holes must be drilled to a minimum of six feet (72 inches) in depth or 24 inches deeper than the roof bolts being used.



Can the test holes drilled during advance mining be used for those required in retreat mining?



Yes, if the open test holes drilled in advance mining meet the requirements for those required in retreat mining.



What must be done when entering a previously mined area for the purpose of pillar recovery?



A roof evaluation must be made and if inadequate roof support is encountered, the necessary corrective actions will be taken.



Does an approved roof control plan require the bleeder system be established and maintained.



Yes



What is the spacing requirements for posts and timbers during retreat mining?



All posts and timbers shall be installed on not more than four (4) foot centers.



Is it necessary for a coal company to notify the OMSL prior to start of pillar mining?



Yes, the OMSL office in which the mine is located must be notified 24 hours prior to the start of any pillar mining.



Safety Precautions for Mobile Roof Supports (MRS)



Are miners permitted to walk alongside mobile roof supports (MRS) when they are being trammed?



No, under no circumstances will anyone be permitted beside or within the turning radius of the MRS when the units are being moved.



Where must the operator be located whenever the MRS units are being raised, set, lowered, or cycled?



The MRS operator and all others must be positioned at a remote location whenever the MRS units are being raised, set, lowered, or cycled.



True or False

The MRS units must be operated in pairs in the active pillaring area.



True, and each unit will be offset not more than one half unit length from the companion unit.



MRS units must be systematically moved as mining progresses. How is this positioning shown on the approved roof control plan?



The positions of the MRS units are indicated by numbers that correspond with the pillar lifts to be mined.



When can MRS units be manually moved?



Manual movements for MRS units will be for maintenance purposes only and will be performed in areas where permanent roof supports are maintained.



What must be done before loading or unloading MRS units manually?



Temporary roof supports will be set before loading or unloading the units manually.



MRS units have pressure gauges that can be observed by the operator. What must be done in the event that the gauges become unreadable?



Pillaring operations, using the MRS units, will cease in the event the gauges become unreadable.



Are all section personnel required to be trained in the pillar recovery method utilizing mobile roof supports (MRS)?



Yes



Additional Precautions for Extended Cuts



What must be done if the dust scrubber becomes inoperative?



Cuts will be limited to 20 feet deep until the scrubber is returned to operating conditions.



When extended cuts (longer than 20 feet) are taken, what is the requirement for test drill holes?



One (1) test hole will be drilled in each active working place during each bolting cycle for each extended cut. The test hole will be at least twenty-four (24) inches longer than the support system being installed.



**When taking extended cuts
how shall crosscuts be
turned?**



Crosscuts will be turned from one direction and completed from the same direction.



If it becomes necessary to turn crosscuts left and right from the same entry, what is the procedure for installing roof support?



The first extended cut made left or right must be fully supported prior to taking the adjacent cut.



When adverse conditions are encountered while taking extended cuts, what must be done?



Mining cuts must be limited to a maximum of 20 feet.



When extended cuts are being taken, how many rows of roofbolts must be installed in by any side or crosscut for cuts up to 30 feet deep?



Three (3) rows of roof bolts for cuts up to 30 feet deep. For cuts greater than 30 feet deep, four(4) rows of roof bolts must be installed.



You are mining 30 feet deep extended cuts and have advanced to within 150 feet of the outcrop. What must you do to comply with the plan and the law?



You must reduce your depth of cuts to a maximum of 20 feet.



The roof bolt operator is preparing to install roof bolts. What is the maximum distance that the automatic temporary roof support (ATRS) can be positioned from the last row of permanent support?



Five (5) feet.



What is the maximum distance that the ATRS can be set from each rib?



Five (5) feet.



**Do approved roof control plans
require roof bolts to be
installed in sequence?**



Yes, and the installation sequence is numbered on the sketches in the plan for the roof bolting machine being used.



In most plans, what is the maximum spacing permitted between roof bolts?



Four (4) feet.



What is the maximum distance that roof bolts can be installed from the coal ribs and the faces?



Four (4) feet.



Roof control plans contain sketches that show how pillars are to be mined systematically and sequentially. These plans are developed to provide maximum safety for the workers during pillar recovery.



Supporting the roof during pillar recovery may be accomplished by: the use of timbers, a combination of timbers and roof bolts, and by the use of mine roof support (MRS) units and timbers.



Regardless of which method is used, the roof support must be installed systematically and in sequence with the pillar lifts (cuts) to be taken.



You and your crew are preparing to begin retreat or pillar mining. What is required by the roof control plan that will provide valuable information about the roof conditions in the area where you are about to mine?



Test holes must be drilled in the mine roof before pillar mining begins.



Where must the test holes be drilled?



Test holes must be drilled in the mine roof in the intersection at the outby end of each pillar to be mined.



Can the test holes that were drilled during advance mining be used?



Yes, open test holes that were during advance mining and meeting these requirements can be used.



You and your crew are preparing to mine the first cut - pillar lift # 1. Which breaker and turn posts must be set before you begin mining?



All breaker posts and turn posts that are numbered 1 on the sketch.



**Before mining pillar lift # 8
in your plan, which timbers
and posts must be set.**



All breaker and turn posts in the plan sketch that have the number 8, must be set before pillar lift # 8 can be mined. Additionally, all breaker and turn posts that were installed for the first seven (7) cuts will remain in place.



Fan Stoppage Plans



The continuous operation of the mine fan is essential for the health and safety of underground miners. However, the fan is occasionally stopped for repairs or maintenance and sometimes due to power disruption.



Regardless of the reason for the fan stoppage, ventilation will have to be restored in compliance with state and federal regulation guidelines.



All coal mines are required by state and federal regulations to have an approved “fan stoppage plan.”



352.030 - Ventilation

(5) Each licensee shall adopt a plan which shall provide that when any mine fan stops, immediate action shall be taken by the licensee or his agent:

(a) To withdraw all persons from the working sections;

(b) To cut off the power in the mine in a timely manner;



352.030 - continued

(c) To provide for restoration of power and resumption of work if ventilation is restored within a reasonable period, of not more than fifteen (15) minutes, as set forth in the plan after the working places and other active workings where methane is likely to accumulate are reexamined by a certified person to determine if methane in amounts of one percent (1%) or more exists therein; and



352.030 - continued

(d) To provide for withdrawal of all persons from the mine if ventilation cannot be restored within a reasonable time, of not more than fifteen (15) minutes.

The plan and revisions thereof approved by the commissioner or his authorized representative shall be set out in printed form and a copy shall be furnished to the commissioner or his authorized representative.



Oral Review

Fan Stoppage Plans



In the event of a ventilating system failure, what action should be taken?



**The approved
ventilation interruption
“fan stoppage plan”
should be followed.**



When the fan stops or for whatever reason the ventilation at a mine is interrupted for 15 minutes or more, what action must be taken by the mine foreman?



All persons must be withdrawn from the working sections and the power must be cut off in a timely manner.



After repairs have been completed to the interrupted ventilation system at a mine, what must be done before the workers are allowed to reenter the mine?



The mine must be reexamined by a certified official to make sure the air is traveling its proper course and that methane has not accumulated in the amount of one (1) percent or more.



What action should be taken before miners are permitted to re-enter a mine following a ventilating system failure?



Mine ventilation should be restored and the mine carefully examined and reported safe by a qualified person.



While ventilation is being restored, who is permitted to enter the affected part of the mine?



No one, except those miners doing the necessary repair work or inspections.



**When should changes
in ventilation be made?**



When the mine is idle.



Fire Fighting and Evacuation



Each licensee or operator of an underground coal mine, shall adopt a program for the instruction of all miners in the location and use of escapeways, exits, and routes of travel to the surface, and proper evacuation procedures to be followed in the event of an emergency.(75.1101-23)



The approved program of instruction shall include a specific fire fighting and evacuation plan designed to acquaint miners on all shifts with procedures for:



Evacuation of all miners not required for fire fighting activities.



The instruction program must also provide for the rapid assembly and transportation of necessary men, fire suppression equipment, and rescue apparatus to the scene of the fire.



The program shall also instruct the miners in the operation of the fire suppression equipment available in the mine.



This approved program of instruction must be given to all miners annually, and to newly employed miners within six months after the date of employment.



In addition to this approved program of instruction, the licensee or operator must ensure that at least two miners in each working section on each production shift are proficient in the use of all fire suppression equipment available on such working section and know the location of the fire suppression equipment.



The licensee or operator must ensure that the shift foreman and at least one miner for every five miners working underground on a maintenance shift are proficient in the use of fire suppression equipment available in the mine, and know the location of such fire suppression equipment.



The licensee or operator shall require all miners to participate in fire drills in intervals of not more than 90 days. A fire drill shall consist of a simulation of the actions required by the approved fire fighting and evacuation plan.



The licensee or operator shall certify by signature and date that the fire drills were held in accordance with the requirements of this training program. Certifications shall be kept at the mine and made available on request to inspection agencies.



Oral Review

Fire Fighting and Evacuation



True or False

Is it a law that miners be trained in the location and use of escapeways, exits, and routes of travel to the surface and proper evacuation procedures in the event of an emergency?



True, and coal mine operators must develop a training program for outlining those procedures and submit it to MSHA for approval.



What must be included in this training program?



The approved program of instruction shall include a specific fire fighting and evacuation plan designed for training the miners in all aspects of the plan.



Name some specifics of the plan?



It must provide for the evacuation of all miners not required for fire fighting activities; Employees must be trained in the rapid assembly and transportation of necessary men, fire fighting equipment, and rescue apparatus to the scene of the fire.



The program must instruct the miners in the operation of the fire suppression equipment available at the mine.



**How often must the miners
receive this training?**



All miners must be given this training annually and all newly employed miners must receive the training within six months after the date of employment.



According to the law, how many people on each working section must be trained to be proficient in the use of all fire suppression equipment available on their working section and know the location of the fire suppression equipment?



At least two (2) miners.



What are the requirements for maintenance workers regarding the fire fighting and evacuation plan?



At least one miner for every five miners working underground on a maintenance shift must be proficient in the use of fire suppression equipment available at the mine and know its location.



According to the law, are miners required to participate in fire drills?



Yes



How often are miners required to participate in fire drills?



Every 90 days.



What must be done in a fire drill?



A fire drill shall consist of a simulation of the actions required by the approved fire fighting and evacuation plan.



Are records required to be kept showing that the training program is being followed?



Yes, and the records must be made available upon request from inspection agencies.



Smoking Article Search



Smoking underground is against the law. State and federal regulations prohibit the use of any smoking articles being taken underground.



No person at any time shall enter any underground mine with matches, pipes, cigars, cigarettes, or any device for making lights or fire not authorized or approved, and the licensee shall at frequent intervals search, or cause to be searched, any person entering or about to enter the mine, to prevent the person from taking, carrying, or using smoking articles. KRS 352.170 and 75.1702



Are miners allowed to smoke underground?



No, and they are not allowed to carry any smoking articles with them in an underground mine.



What is required by state and federal regulations to prevent smoking underground?



The licensee or operator of all underground coal mines shall conduct a search for smoking articles at frequent intervals, to prevent smoking articles being taken into the mine.



You should never smoke underground and a certified mine foreman should never permit any of his workers to smoke underground.



Accident Reporting



State and federal regulations require coal mines to report certain accidents to the OMSL and to MSHA. (KRS 352.180 and CFR 50.20-5)



As a mine foreman, you are a representative of the mine licensee, the mine owner or operator.



Whenever serious personal injury or loss of life occurs in a mine or whenever a fire, explosion, or other serious accident occurs, the superintendent of the mine, or if he is absent, the mine foreman in charge of the mine shall immediately notify the OMSL, MSHA, and the representative of the miners, stating the particulars of the accident and whether or not anyone was killed.



Whenever any serious injury or loss of life occurs at a mine, the accident must be reported immediately to the OMSL and MSHA.



An Initial Accident Report, form EB-83, must be completed for the Office of Mine Safety and Licensing (OMSL), whenever a “reportable, serious injury or fatality” occurs. The Initial Accident Report is shown on the next slide.





COMMONWEALTH OF KENTUCKY
OFFICE OF MINE SAFETY AND LICENSING

INITIAL ACCIDENT REPORT

FATALITY SERIOUS INJURY REPORTABLE

Company Name _____ Licensed? Yes No

Company Address _____ License No. _____

Mine Name/Number _____ State File No. _____

Mine Location _____ County _____ Telephone No. _____

Immediate Supervisor _____ Certification # _____

Mine Foreman _____ Certification # _____

Mine Type: Underground Surface Accident Location (face, section, surface, pit, prep. Plant) _____

Has next of kin been notified? Yes No By Whom? _____

Injured Person _____ Age _____

Injured Person's Address _____ Telephone _____

Miner I.D. No. _____ Married Yes No Dependents _____

Regular Occupation _____ Occupation when injured _____

Total Mining Experience _____ At this mine _____ At this occupation _____

Multiple accident? Yes No No. of injured _____ (complete separate form for each injured person)

Date and time of accident _____ Regular Shift Overtime Shift

Shift 1st 2nd 3rd Time shift began _____ Time shift ended _____

Date/time reported to OMSL _____ Reported by _____

Type of accident Roof Fall Machinery Electrical Haulage Explosives Other

Brief description of accident (incl. Injured body part _____

Was injured person taken to hospital? Yes No Hospital name _____

Hospital telephone # _____ Date admitted: _____ Date released: _____

In case of fatality, was body taken to funeral home? Yes No

Funeral home name _____ Funeral home telephone # _____

(FOR OMSL USE ONLY)

Signed: _____ District _____

JSA # _____

This is the *Initial Accident Report, EB-83*, that must be completed for OMSL.

Whenever a fatality, serious injury, or a reportable accident occurs, this report must be completed and reported in the time frames as follows:

- fatality – immediately
- serious injury - immediately
- reportable – within 10 days

Serious and reportable accidents are defined on the following communication that was and is mailed to all Coal Mine Licensees and Supervisory Personnel from the Executive Director of the OMSL.





COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
OFFICE OF MINE SAFETY & LICENSING
P.O. BOX 2244
FRANKFORT, KENTUCKY 40602
TELEPHONE: (502) 573 - 0140

Important Notice

To: All Coal Mine Licensees and Supervisory Personnel
From: Paris L. Charles, Executive Director *Paris L. Charles*
Date: February 2, 2006
Re: Accident Reporting

Please be advised that the following is your responsibility as Executive Officer or Supervisor of a Kentucky coal mining operation.

All serious and fatal accidents must be reported to your district office immediately as required by KRS 352.180. All accidents (reportable, serious and fatal) must be reported to your district office by means of the attached form, EB-83.

The Department has defined a reportable accident as a personal injury accident that results in lost time or an accident that would prevent an employee from performing his regularly assigned duties during his next regularly scheduled shift. Reportable accidents must be reported within 10 days of the accident.

A serious accident is defined as a physical injury which creates a substantial risk of death or which causes serious and prolonged disfigurement, prolonged impairment of health, or prolonged loss or impairment of the function of any bodily organ.

Note: Any and all accidents involving electricity will be considered to be and shall be reported to the district office as serious accidents due the potential for loss of life.

District Office: HARLAN Telephone: 606 573-1260

District Supervisor: RONNIE HAMPTON Telephone: 606 848-1018

Inspector Principal: GEORGE JOHNSON Telephone: 606-589-2822

This letter and a copy of the *Initial Accident Report (form EB-83)* was mailed to all Coal Mine Licensees and Supervisory Personnel, explaining their responsibility for notifying OMSL regarding any fatality, serious accident or serious injury , and other reportable accidents occurring at their mine. (letters were mailed from all OMSL district offices)

Serious injury or Serious Accident is defined as one which creates a substantial risk of death and/or prolonged impairment. All electrical accidents are categorized as *serious*.

A Reportable Accident results in lost time or prevents the injured from performing regular duties on the next scheduled shift.

(Instructors: read and review this letter with class.)





COMMONWEALTH OF KENTUCKY
OFFICE OF MINE SAFETY AND LICENSING

INITIAL ACCIDENT REPORT

FATALITY SERIOUS INJURY REPORTABLE

Company Name _____ Licensed? Yes No

Company Address _____ License No. _____

Mine Name/Number _____ State File No. _____

Mine Location _____ County _____ Telephone No. _____

Immediate Supervisor _____ Certification # _____

Mine Foreman _____ Certification # _____

Mine Type: Underground Surface Accident Location (face, section, surface, pit, prep. Plant) _____

Has next of kin been notified? Yes No By Whom? _____

Injured Person _____ Age _____

Injured Person's Address _____ Telephone _____

Miner I.D. No. _____ Married Yes No Dependents _____

Regular Occupation _____ Occupation when injured _____

Total Mining Experience _____ At this mine _____ At this occupation _____

Multiple accident? Yes No No. of injured _____ (complete separate form for each injured person)

Date and time of accident _____ Regular Shift Overtime Shift

Shift 1st 2nd 3rd Time shift began _____ Time shift ended _____

Date/time reported to OMSL _____ Reported by _____

Type of accident Roof Fall Machinery Electrical Haulage Explosives Other

Brief description of accident (incl. Injured body part) _____

Was injured person taken to hospital? Yes No Hospital name _____

Hospital telephone # _____ Date admitted: _____ Date released: _____

In case of fatality, was body taken to funeral home? Yes No

Funeral home name _____ Funeral home telephone # _____

(FOR OMSL USE ONLY)
Signed: _____ District _____
JSA # _____

The following is an exercise to teach you how to properly complete the *Initial Accident Report (form EB-83)*.

You will be provided with information about a fictitious accident that may be similar to some that have happened at various coal mines in the past.

After reading the information that follows on the next slide, you are to complete the *Initial Accident Report (form EB-83)*. Only the information given to you can be transferred to the accident report and therefore some information required by the report will remain blank.²⁸⁰



Instructors: distribute a copy of this slide and the *Initial Accident Report form EB-83* to all class members. Participants are to fill out (print for legibility) the *Initial Accident Report, with the information that follows:*

Today, Feb. 1, 2006, John Smith, scoop operator, was injured while rockdusting the # 1 entry near the face of 001 section. While lifting a bag of rockdust, a piece of rock fell from between the roof bolts, and struck John on the right arm resulting in a compound fracture. The injured was transported to Bell County Hospital, phone # 606-555-1212.

The accident occurred at approximately 2:00 P.M., on the day (1ST) shift which begins at 7:00 A.M. and ends at 3:00 P.M. John Smith is 25 years old, has a total mining experience of three (3) years, all as a scoop operator at this mine. Smith is married, with a wife and one child, he lives at Hard Rock, Ky., and his phone number is 606-555-5555. John Smith's Miner I.D. No. is 54545. His wife was notified by the mine superintendent, Jim Jones, certification # A-001-06.

You, the class participant, are the underground mine foreman and you are reporting this accident to OMSL today at 3:00 P.M. Your certification number is A-150-06. You are working at XYZ Coal Co., Number 1 Mine, located at Hard Rock, in Bell County, Ky. The mine license is 0011, and the address is 1999 Big Branch Hollow, Anywhere, Kentucky, 40001. The State File No. is 001001. The mine phone number is 606-555-0001.





COMMONWEALTH OF KENTUCKY
OFFICE OF MINE SAFETY AND LICENSING

INITIAL ACCIDENT REPORT

FATALITY SERIOUS INJURY REPORTABLE

Company Name XYZ COAL COMPANY Licensed? Yes No
 Company Address 1999 BIG BRANCH HOLLOW, ANYWHERE, KY. 40001 License No. 0011
 Mine Name/Number NUMBER 1 MINE State File No. 001001
 Mine Location HARDROCK County BELL Telephone No. 606-555-0001
 Immediate Supervisor (CLASS PARTICIPANT'S NAME) Certification # A-150-06
 Mine Foreman (CLASS PARTICIPANT'S NAME) Certification # A-150-06
 Mine Type: Underground Surface Accident Location (face, section, surface, pit, prep. Plant) 001
 Has next of kin been notified? Yes No By Whom? JIM JONES
 Injured Person JOHN SMITH Age 25
 Injured Person's Address HARD ROCK, KY. Telephone 606-555-5555
 Miner I.D. No. 54545 Married Yes No Dependents 2
 Regular Occupation SCOOP OPERATOR Occupation when injured SCOOP OPERATOR
 Total Mining Experience 3 YRS. At this mine 3 YRS. At this occupation 3 YRS.
 Multiple accident? Yes No No. of injured 1 (complete separate form for each injured person)
 Date and time of accident 2/1/06 AT 2:00 P.M. Regular Shift Overtime Shift
 Shift 1st 2nd 3rd Time shift began 7:00 A.M. Time shift ended 3:00 P.M.
 Date/time reported to OMSL 3:00 P.M. Reported by (CLASS PARTICIPANT'S NAME)
 Type of accident Roof Fall Machinery Electrical Haulage Explosives Other
 Brief description of accident (incl. Injured body part) WHILE LIFTING A BAG OF ROCKDUST, A
PIECE OF ROCK FELL FROM BETWEEN THE ROOF BOLTS AND STRUCK
SMITH ON THE RIGHT ARM - RESULTING IN A COMPOUND FRACTURE.
 Was injured person taken to hospital? Yes No Hospital name BELL COUNTY
 Hospital telephone # 606-555-1212 Date admitted: - Date released: -
 In case of fatality, was body taken to funeral home? Yes No
 Funeral home name _____ Funeral home telephone # _____

(FOR OMSL USE ONLY)

Signed: _____ District _____
 JSA # _____

The *initial accident report* has been completed with the information provided.

The exact wording in the "accident description" may differ, but the information provided should be the same.

At the time of reporting this accident, it was not known whether or not the injured was admitted to the hospital.

This exercise should help you when it becomes necessary to complete and report accidents to OMSL after assuming mine foreman duties.



Training Plans



Training and certification of inexperienced and experienced miners must comply with state and federal regulations.



Training plans must be developed and submitted for approval by the licensee. After the plan has been approved, the mine foreman is responsible for complying with the portion of the plan in his area of involvement.



**The training for an inexperienced underground miner, which is 40 hours of initial class room training, can only be conducted by a Kentucky certified underground mining instructor.
(KRS 351.102 and 805 KAR 7:020)**



The annual retraining required for experienced miners consist of 16 hours of training. Eight (8) hours of the training must be conducted in the classroom by a Kentucky certified mining instructor. However, eight (8) hours of the training can be conducted by a certified mine foreman. (805 KAR 7:030)



Some companies use certified Kentucky mining instructors to administer the entire 16 hours of retraining.



But many companies elect to use the foreman to administer eight (8) hours of the retraining at the mine site.



The eight (8) hours of annual retraining can be taught by a certified mine foreman in training sessions or safety meetings in segments of 15 minutes or more.



Mines that utilize the foreman to conduct the eight (8) hours of training in segments, must inform the persons receiving the training that this is part of their annual retraining.



Records of these training segments, including dates, duration, subject and attendees, must be maintained at the mine site.



Certified mine instructors and certified mine foremen can be used to administer “mine specific-training for newly employed miners.” (805 KAR 7:040)



Each newly employed “inexperienced miner” shall receive a minimum of eight (8) hours training by the licensee before the newly employed inexperienced miner can be assigned any work duties.



Likewise, each newly hired “experienced miner” must receive sufficient training as outlined in the administrative regulations, before the newly hired experienced miner can be assigned work duties.



The law clearly states that all newly hired miners, whether experienced or inexperienced, must receive training pertaining to the mine where they will be working before they can be assigned any work duties at that mine.



For the “inexperienced miner” who receives the mine specific training, additional restrictions are required for him/her to perform duties underground. He/she must work within sight and sound of another certified miner at all times.



State regulations permit a certified mine foreman to have up to five (5) inexperienced miners to work under his supervision for the purpose of learning and being instructed in the duties of underground coal mining.



After working within sight and sound of another certified miner at all times for 45 working days, the inexperienced miner can then apply for and receive the “certified miner” certification.



When miners are assigned new work assignments which require the direct operation of mechanical machinery, electrical machinery, or equipment in connection with mobile equipment operations, blasting and drilling operations, haulage and conveyor system operations, or roof control, they cannot perform work duties until they have completed training on such equipment.



As a foremen, you are responsible for making sure that the workers under your supervision have been trained according to state and federal regulations before they are permitted to perform duties at your underground coal mine.



You must also comply with the training provisions for visitors at your underground coal mine. The mine licensee must provide underground hazard training to visitors exposed to underground coal mine hazards. As an agent or representative of the mine licensee, you must make sure that visitors to your section or mine have been properly trained.



The training requirements for underground coal miners are extensive. Failure to comply with training requirements can result in penalties and disciplinary action that can lead to foreman decertification.



Hopefully, you now understand that compliance with training regulations is another of your many responsibilities while serving as a certified mine foreman.



Oral Review Training Plans



Are mine licensees required to have an approved training plan for their mining operations?



Yes



True or False

The 40 hour training program for new underground miners can be conducted by a certified mine foreman.



False

The 40 hour training program for new underground miners must be conducted by a Kentucky certified mine instructor.



True or False

Experienced miners must receive 16 hours of annual retraining. A certified mine foreman can administer the training.



False

Eight (8) of the 16 hours of annual retraining must be administered in the classroom by a Kentucky certified mine instructor. The other eight (8) hours of retraining can be administered by a certified mine foreman.



State regulations allow the eight (8) hours of retraining taught by the mine foreman to be administered in what minimum time segments?



**No less than 15 minute
segments.**



How much and what type of training is required at the mine site for each newly hired inexperienced miner?



**Eight (8) hours of mine
specific training.**



When working underground, what other restriction is placed upon inexperienced miners who have received the eight (8) hours of mine specific training?



They must be within sight and sound of a certified miner at all times.



How many inexperienced miners can a certified mine foreman have under his supervision?



Five (5)



How many days does an inexperienced miner have to work underground before he can apply for and receive the experienced miner certification?



**Forty-five
(45) days**



You are the foreman with two (2) crew members absent. In order to run coal, you have to use your scoop operator as a roof bolt machine operator. He has delivered supplies to the bolt machine and watched the operation many times but he has not been trained to operate it.



Can you use him to bolt the top for this shift only and be in compliance with the training plan?



No, and if you are caught, disciplinary action will be taken against you. If the scoop operator gets injured while operating the roof bolting machine, a more severe disciplinary action is likely to occur.



**As a certified mine foreman,
are you responsible for
making sure that the workers
under your supervision have
been trained according to
state and federal regulations
before being permitted to
perform duties underground?**



Yes



End of Unit 9

