

## Best Practices Retreat Mining BP Card No. 27



A review of fatal accidents that occurred during pillaring from 1989 through 1996 showed that:

Forty-two percent of fatalities occurred on the final push out or the last lift; and

Forty percent of the fatal accidents occurred while the approved mining sequence was not followed.

During the review, it was also discovered that:

Adverse geology contributed to more than forty of all retreat mining fatalities.

Most unintentional roof falls occur in July, August, September, October and November, with August having the most falls.

The best practices listed below should be followed during retreat mining.

- Know your approved roof control plan.
- Follow the safety precautions and mining sequence in the approved roof control plan. (The roof control plan is a **minimum** plan.)
- Additional supports, such as longer bolts, posts, cribs, crossbars, and metal straps, should be used at **any indication** of bad roof.
- Install breaker posts; they are the only supports that stand between you and the gob.
- Install radius turn posts and roadway posts; they make a safe road.
- Continually observe the breaker, radius and roadway posts to see if they are taking excessive weight (bending or breaking).
- Use only posts that are of proper size, and are installed on solid footing.
- While waiting between shuttle car runs, listen to and sound the roof.
- Stay outby the intersection if you don't have a job at the face.

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- Never congregate near an active pillar line.

- Ensure that mechanical roof bolts are anchoring into at least 12 inches of solid strata.
- Drill test holes at least 12 inches deeper than the bolt being installed.
- Ensure that all draw rock is taken down or supported. Keep a slate bar of suitable length on the continuous miner and roof bolter for this purpose.
- Report all adverse roof conditions to the foreman.
- Always maintain proper stump and fender size.
- When mining the final push out, all persons, except haulage equipment and miner operators, should be located outby the immediate intersection.
- Do not mine the final push out if conditions do not look safe, or leave the stump if adverse conditions appear.
- Watch the mine floor conditions for evidence of heaving.
- Take special note of geologic conditions (slips, kettle bottoms) that did not adversely affect roof conditions during development. As stress in the roof from second mining increases, the influence and hazards of these conditions may increase.
- Carefully evaluate roof conditions in old areas where mechanical bolts were used for support. The anchorage of these bolts often deteriorate with time and new supports may be needed.
- In areas of high cover, pillar sloughing and the presence of fine, rust-colored dust at the top of the coal could be an indication of a concentration of stress which could be suddenly released.

### Special practices for mines with shallow cover

- Take special precautions when approaching within 150 to 200 feet of the outcrop or when mine cover is less than 100 feet (check mine map).
- These special precautions should include additional roof support and reducing entry and crosscut width.
- Water dripping from the roof is an indication the roof strata has been fractured and weakened. Additional support may be needed.
- Special note should be taken of geologic conditions such as mud seams and vertical cracks in the roof.

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