

Retreat Mining

Best Practice Series

BP-27



A review of fatal accidents that occurred during pillaring shows that a large percentage happened on the final push out or the last lift, while the approved mining sequence was not followed.

Adverse geology contributed to many of the retreat mining fatalities. Most of the unintentional roof falls occurred July through November, with August having the most falls.

Follow these best practices during retreat mining:

- » Know and follow the approved roof control plan.
- » Follow the safety precautions and mining sequence in the approved roof control plan.
- » Use additional supports, such as longer bolts, posts, cribs, crossbars, and metal straps 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.
- » Observe the breaker, radius, and roadway posts to see if they are taking excessive weight (bending or breaking).
- » Align the belt from a safe place; be sure the conveyor can't grab you.
- » Use properly-sized posts and install them on solid footing.
- » Listen to and sound the roof while waiting between shuttle car runs.
- » Stay outby the intersection if you don't have a job at the face.
- » Never congregate near an active pillar line.
- » Be sure 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.
- » Take down or support all draw rock. 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.
- » Pay attention to 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; new supports may be needed.
- » In areas of high cover, look for pillar sloughing and the presence of fine, rust-colored dust at the top of the coal; this could indicate 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 can indicate the roof strata has been fractured and weakened. Additional support may be needed.
- » Watch for mud seams and vertical cracks in the roof.

Arrive Home Alive

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Mine Safety and Health Administration
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