After several years of relatively low roof fall accidents, six of the first twelve fatalities in 2005 were the result of roof falls.

BEST PRACTICES:

- Follow the approved roof control plan
  - Ensure that all employees are familiar with the requirements of the plan on advance and retreat mining.
  - When adverse conditions are encountered or anticipated, review the plan.

- Determine where and when additional support is necessary
  - Conduct thorough examinations of roof, ribs and face before any work is performed, and thereafter as conditions warrant.
  - Study and review maps of adjacent mined areas. Be conscious of stream beds, low cover, and other geological conditions.
  - Evaluate the immediate roof conditions by drilling every test hole at least two feet deeper than the anchorage point of the longest installed roof bolt.
  - Be aware of strata changes and conditions, such as hill seams, vertical joints, cracks, kettle bottoms, etc., through frequent visual examination.

- Install additional support to control draw rock between bolts
  - Tighten bolt patterns, larger bearing plates, straps, roof caps (pizza pans/spider plates), roof mesh (wire or high tensile strength plastic).

- When encountering extremely adverse roof conditions:
  - Narrow entry widths (Increase pillar size).
  - Stagger crosscuts.
  - Limit depth of cuts.
  - Increase number of test holes. (i.e., every cut)
  - Install supplemental roof support, cribbing, posts, cable bolts, truss bolts, beams, etc.

Developed in cooperation with:

- Beaver Gap E-3 Mine, Consol of Kentucky Coal Company, Knott County, Kentucky (Team Leader)
- Darby #2, Powell Mountain Coal Company, Harlan County, Kentucky
- E-4 Mine, TECO Coal Corporation, Perry County, Kentucky
- Clean Energy Mine, ICG Knott County LLC, Knott County, Kentucky